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The Modern Quarterly

THE MODERN

SUMMER 1946

POLEMIC is a magazine of contemporary ideas. It is a medium for discussions about the main trends in philosophy, psychology and æsthetics.

POLEMIC 3 includes a highly controversial essay by George Orwell on Burnham's *Managerial Revolution* and a long review of K. R. Popper's important critique of Hegel and Marx. C. H. Waddington discusses ethics from the point of view of a socially conscious scientist, and the Editorial refers to Professor Bernal's views on the same subject with some pungency.

Geoffrey Grigson opposes the romantic reaction in literature; the mixed Hellenic and Oriental influences in Botticelli are described by Toni del Renzio; and Philip Toynbee gives well-informed but debatable advice to an imaginary modern Shakespeare or Goethe aged 22.

POLEMIC

3

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WILLIAM PRIMROSE

and the

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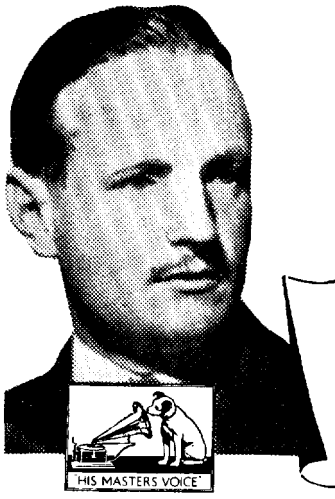

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Editorial

DURING the past three months the ideological offensive against Socialism has been in full swing in a stream of new books, in the Press, and on the air. We need only mention the successive series of broadcasts (four in each) by the Rev. D. R. Davies, Father Martindale and J. Middleton Murry, whose single theme was "The Defeat of Modern Man." "Civilisation has one possibility of survival," says D. R. Davies. "Somehow or other, by hook or by crook, *this world must be robbed of the importance which it has had*" (our italics). As an epilogue to these prophesies of woe comes the unrelieved pessimism of Koestler, Professor Woodward and E. M. Forster. We are gratified to note that both Koestler and Davies make their point of attack the articles by Haldane and Bernal in the *Modern Quarterly*.

We conceive it to be our task to continue the counter-offensive so ably begun by Bernal, Farrington and Haldane in their Sunday evening broadcasts, and we invite more articles on the current philosophies of our time, critical articles on literary tendencies, and reviews of recent books, to which we intend to devote more space. We are anxious for our contributors to take up and critically expound the "existentialism" which is so influential, especially in France, the personalism of Berdyaev, the irrationalism of Kierkegaard. We are glad to announce that in forthcoming issues Professor Haldane intends to deal with C. S. Lewis of *The Screwtape Letters*, Maurice Cornforth will write on *Logical Positivism*, which is receiving some attention in *Polemic*, and two further articles by Cornu will appear on *Marxism and Ideology*.

WE are most anxious to extend the field of discussion opened by the communications we have printed on Marxist economics and on art. Unfortunately, our supplies of paper are still greatly restricted. We therefore limit our editorial remarks to find the maximum space for the many lively communications which have reached us on these issues and for Mr. Blaukopf's endeavour to start another hare.

Mr. Hyman Frankel's second article on Whitehead will appear in the autumn number.

Our Contributors

R. Palme Dutt, the Editor of *The Labour Monthly*, delivered the Marx Memorial Lecture on "The Power of Marxism" on March 14th. He is the author of *World Politics, Fascism and Social Revolution, India To-day* and other works. He is at present in India. *Professor Georges Teissier* is a distinguished French biologist who has closely identified himself with the Left political movement in France. *Frida Stewart* writes not only from a wide knowledge of French literature, but from first-hand experience of working with the Resistance Movement in France. *Fernau Hall* is a Canadian from the University of British Columbia. He acted in the Unity Theatre production of *Waiting for Lefty* in 1936. Demobbed in 1945 he has just written two books on ballet. *Kurt Blaukopf* is a civil servant in Palestine and a student of philosophy. *Professor Roy Pascal* is Professor of German in the University of Birmingham and was formerly a Fellow of Pembroke College, Cambridge, and Lecturer in the University. He is the author of *The Social Basis of the German Reformation, The Nazi Dictatorship* and other works. His forthcoming book in the "Past and Present" Series is *The Growth of Modern Germany. Major D. M. Van Abbé*, after a distinguished career at Cambridge, joined the Army, which he is now leaving to take up an academic post in Tasmania. *Dr. Michael Abercrombie* is a member of the Department of Zoology in the University of Birmingham.

The Editor of the MODERN QUARTERLY will be pleased to receive communications raising issues for discussion or criticising articles which have appeared. Suggestions as to full-length articles are welcome. It is hoped to develop the section allotted to reviews, and readers are asked to consult the Editor about books they would be interested to review.

We should be particularly glad to receive articles on physical science, economics, æsthetic and literary criticism, ethics and philosophy. All articles are paid for.

Correspondence should be addressed to the Editor, Dr. John Lewis, 40 Claremont Park, Finchley, London, N.3.

The Power of Marxism

(*Marx Anniversary Lecture* 1946)

By R. Palme Dutt

WE pay our tribute to-day to the memory of the greatest thinker, teacher and practical leader of humanity, Karl Marx, whose influence is shaping the modern world and guiding mankind through the historical associations of our time, from the old, barbarous class-society to the future of human co-operation and ultimate advance to Communism.

It may be truly said that never before in all these sixty-three years has the influence of Marxism and Communism stood so high. This is the first anniversary since the defeat of Fascism. Fascism swore to destroy Marxism and all human progress with every means of violent suppression and extermination of millions. Fascism failed, and its military power is now in the dust. Where Fascism failed, none other that dares to assume its discredited mantle shall succeed. A new world is coming to birth; the peoples are on the march, and in that new world Marxism leads the way.

The address which I was to have given you this evening on The Power of Marxism has been forestalled and my subject stolen from me by that more distinguished orator who has made a much publicised speech at Fulton, Missouri, and devoted his address to his kind of inverted tribute to the power of Marxism in the world. The brilliant leader of the wars of intervention against the Soviet Union, who has subsequently claimed the Order of the Red Banner from Molotov on the grounds that his wars of intervention had helped to build the Red Army, the brilliant organiser of the Tory General Election victory campaign and author of those election broadcasts which so powerfully contributed to the results of the election, now offers a new crusade against Communism and the Soviet Union. It is worth recalling the words he is alleged to have used at the time of his wars of intervention against the young Soviet Republic:

> "It were better to smash the Bolshevik egg before it hatched than be compelled to chase Bolshevik chickens all over the world."

Well, he now appears to be engaged in chasing the chickens over the world, and, to use his own favourite phraseology, we can say, "Some chicken!"

We can sympathise with the discomfort of Mr. Churchill. The world is not going the way he intended. The liberation, as he remarks in his speech, is not what he intended. Michailovich gone; King Peter gone; Darlan gone; Badoglio gone; Victor Emmanuel gone; Franco going. Worse still, himself gone—turned out by the people of Britain, while Stalin remains stronger than ever in the leadership of a united people. The Soviet Union has not been bled to death, in spite of the delay of the Second Front, which it is now revealed he was primarily responsible for postponing in order to ensure that the main brunt of the war should fall upon the Soviet Union while the Anglo-American forces should be held in reserve for his third world war. When he looks at the miscarriage of his plans to-day, no wonder that he feels sour. His speech was the defeatist snarl of a dying social order seeking a new war as their only way to preserve their privileges.

We warn the Churchills, the Cardinal Griffins, the Andersons and the rest, others have tried this path before; none has succeeded. From every assault Communism has emerged the stronger. A long line of savers of civilisation against Communism fills the records of the past century—Gallifet and Cavaignac, Thiers, who over the 30,000 corpses after the suppression of the Paris Commune proclaimed Communism dead, Bismarck and his anti-Socialist laws, Stolypin, and Pobiedonostzev, Denikin and Koltchak, Horthy and Mannerheim, not to mention our own Joynson Hicks and Neville Chamberlain and the Munich men, and, finally, the supreme attempt of the Axis gang, Mussolini, Hitler, Goebbels and the crew who now stand in the dock at Nuremberg. Not a glorious company to join—a company remembered only with execration in the records of history. All have failed; you can't turn back the wheel of history. As Marx declared of previous such attempts at the time of the suppression of the Paris Commune:

> "Wherever, in whatever shape and under whatever conditions the class struggle obtains any consistency, it is but natural that members of our association should stand in the foreground. The soil out of which it grows is modern society itself. It cannot be stamped out by any amount of carnage. To stamp it out the Government would have to stamp out the despotism of capital over Labour—the conditions of their own parasitical existence."[1]

[1] Marx, *Civil War in France.*

The Power of Marxism

A century ago Marx and Engels began their *Communist Manifesto* with the famous words about the spectre that was haunting Europe, the spectre of Communism, and how all the powers of old Europe had entered into a holy alliance to exorcise that spectre, Pope and Czar, Metternich, Guizot, etc. To-day the position is reversed. Millions turn to Marxism; new governments come into being with Communists in leading roles; a new Europe arises. The spectre to-day is the ghost of the old, dying forces that brought fascism and seek to kindle the world in flames in order to save their privileges. That spectre we shall lay.

It is time to end the conspiracy mania in dealing with Communism. The attempt to treat Communism as if it were some kind of sinister plot, the myths and rubbish about police, and talk of fifth columns, it is time to end this claptrap and seek seriously to understand why millions place their confidence in Communism to-day. If the French people have given the first political position in their country to the Communist Party with 5 million votes (and there is every ground to believe that there will be more at the coming election); if the Italian Communist Party at its last Congress reported 1,800,000 members; if the Czech Communist Party has 1 million members out of a population of 12 millions—and as this process is developing at varying rates and tempos in all the countries of the world; and what is more if this growth has gone forward against all obstacles and obstruction of the powers in possession—then this is a political development of lasting significance, and it is only possible because it corresponds to the deep historical needs and aspirations of the people. Therefore it is necessary for all without exception to approach this development with sympathetic political understanding.

What, then, is the power of Communism? It is at once the power of an idea and of a movement; an idea that is a scientific theory, and a movement, a living movement of history embodied in the working-class movement. It is the combination of the two that is the special character and strength of Marxism.

Marxism is a scientific world theory, the first completely critical, completely scientific world theory, without dogma, not static, embodying the sum of human knowledge and living and growing with the growth of human knowledge. That is the theory philosophically known as Dialectical Materialism, to which the most famous modern scientists like Joliot-Curie, Bernal, Haldane and a host of others increasingly turn for light on their theoretical

problems. It is worth remembering here the words of Engels at the graveside of Marx, "To Marx, science was an historically driven revolutionary force." The truth of this is very powerfully demonstrated to-day with the tremendous new issues and prospects of social transformation brought in view by the release of atomic energy, which fills all the publicists of the old order with glum foreboding and apprehension, and which only Marxism and the working class view with confidence and optimism for the future.

This theory applied to human history and with the theory of historical materialism, ends the old chaos of arbitrary events which used to pass for history, and lays bare the laws of historical development, thereby pointing the way for man to become the master of history.

Concretely applied to our epoch, Marxism laid bare the laws of the modern era, of capitalist society; it showed the role of capitalism in gigantically developing the production forces, and the role of the early democratic revolts in ending the old forms of oppression and launching the conception of the liberty and equality of all human beings. At the same time it showed the shortcomings and deep contradictions of capitalist society; the continuance of class oppression through the domination of capital and the growth of new forms of class struggle; the inability of capitalism to master the gigantic productive forces which had been brought into being, and so with the continuous process of capitalist concentration, accumulation and expansion leading to ever-extending crises and social and political conflicts, thereby revealing the necessity of the next stage—the task of our time—that the modern productive forces must become socially owned, i.e. the aim of Socialism, the first stage of Communism, ending class society and division and making man for the first time free, and the master of Nature and his destiny.

Finally, Marxism showed also the power to achieve this change arising from this capitalist society, the power of the working class leading the masses of the people. Here the theory joins with practice. Marxism is not only a scientific theory whose greatness has been abundantly proved through decades of experience at a time when every other theory has been shipwrecked by the events—Marxism is more. Marxism, Communism, is no passive theory, but a living movement of millions; a movement of the immense majority in the interests of the immense majority; a movement of the working people of the world striving for emancipation and fighting their

way forward in the light of Marxist theory. Marx brought Socialism down from the clouds, from being a mere aspiration, a dream of poets and philosophers. Socialism is embodied in the working-class movement, the historical movement which can alone achieve this great transformation of society. Herein is expressed the revolutionary character of Marxism. Lenin said:

> "The unvanquishable, attractive force which draws the socialists of all countries to this theory lies in the fact that it combines a strict and advanced scientific character (being the last word in social science) with a revolutionary character combining them, not accidentally and not only because the founder of the doctrine combined in his person the attributes of a scientist and a revolutionary, but combining them from within and inseparably in the theory itself."[1]

In the light of the social and historical understanding, Marxism showed the supreme task before the working-class movement to be to win political power—power adequate to carry through the necessary social transformation and to crush the resistance which we know well to-day to be the tenacious, the unscrupulous and the violent resistance of the old exploiting classes.

The accomplishment of this task requires mastery of the science of politics, and to this Marx devoted no small portion alike of his creative thought and practical work, bringing understanding of all stages of political development and growth, the forms and conditions of development of the mass movement, the unity of the working-class struggle with the national struggles for liberation, and with every phase of democratic struggle; and, above all and through all, the vanguard role of the working class and of the political party of the working class founded on Marxism, the Communist Party. In all practical tasks of building the movement, Marx led the way in the conditions of his epoch, and that work has been carried forward after him by Lenin, by Stalin, and by all the leaders of Marxism.

It has been and still remains a long road of development for the workers to battle their way forward and to reach—from the midst of all the shortcomings, the frustration and brutalising conditions of capitalist society—their organisation, their unity and clearness of political consciousness and leadership. It required the sacrifice and heroism of generations of pioneers, from the days of Chartism, of

[1] Lenin, *Who are the Friends of the People?*

early trade unionism and the early Socialist movement, to build up that movement which we inherit to-day.

Lenin, in an address on the thirtieth anniversary of the death of Marx in 1913, spoke of three epochs of world development since the beginning of the political activity of Marx. The first was that from 1848 to 1871 during which Marxism had to battle to establish its primacy as the theory of the working class. This was the period of the first working-class international which culminated in the Paris Commune, the first victory of working-class power in history whose seventy-fifth anniversary falls four days from to-day. The second period was that from 1871 to 1905, the period of the growth of the mass organisations of the working class, united in the old Second International already in its formal programme on the basis of Marxism, but with dangerous weaknesses through the influence of revisionism and reformism. The third epoch was that which opened in 1905 with the first Russian Revolution—the revolutionary epoch. Lenin said:

> "After the appearance of Marxism every one of the three epochs of world history brought it new confirmation and new triumphs. But the coming historical epoch will bring an even greater triumph to Marxism as the teaching of the proletariat."[1]

That prediction made in 1913 has been abundantly proved by the events. Within four years there followed the victory of the Socialist Revolution in Russia, the establishment of the Soviet Union, and thereafter the triumphant building of socialism over one-sixth of the earth, and the whole world development leading to the great battles and issues of the present day.

It has not been an easy road; there has been no lack of mistakes and weaknesses. The working-class movement has to learn from its mistakes. As Engels said:

> "The best way to find theoretical clarity of conception is to learn from your own mistakes; to learn wisdom at the expense of your own losses. And there is no other way for a mighty class."[2]

The epoch of imperialism, which in reality signalised that capitalism had run the limits of its development and was entering its decline and downfall, appeared to superficial observers as if it were a period of gigantic capitalist prosperity and expansion reaching over the entire world. This brought a wave of capitalist influence

[1] Lenin in *Pravda*, 1913, on the thirtieth anniversary of Marx's death.
[2] Engels: letter to Wischnewetsky.

within the Labour Movement expressed in revisionism and reformism, which sought to turn aside the working class from its revolutionary task, denied the Marxist theory of capitalism and its growing contradictions, and proclaimed a peaceful, easy road of prosperously-developing capitalism with increasing benefits for the workers. Lenin and the Bolsheviks had to fight these false theories. The First World War obviously smashed their theoretical basis and opened the general crisis of capitalism. The test of experience proved that only Bolshevism based on the sure foundation of Marxist theory was able to lead the workers to Socialism.

After the First World War, despite the tremendous social and political changes and conflicts which spread throughout the world, the Labour Movement in the countries outside Russia was not yet ready and able to win power, and capitalism was unable to rebuild its shattered structure. There followed a second wave of capitalist influence based on false theories and capitalist revival, which found expression in the controversies of social democracy and Communism in the inter-war years. To-day some younger scribes of the Labour Movement, who appear to have a singular genius for putting their foot into whatever they touch, seek to hold aloft the old discredited banner of Social Democracy and proclaim as the great issue of our time the battle of Social Democracy against Communism, "Western Socialism against Communism." They appear to be unaware how greatly the frontiers have moved and how these old controversies have been basically settled by history, by Fascism. The decisive alignment in the present phase is between the supporters and opponents of working-class unity for the completion of victory over Fascism and all its reactionary supporters.

But since this attempt is being made to idealise the conception of Social Democracy as opposed to Communism, it is necessary for the younger generation who didn't live through those years to make fully understood what that Social Democracy was which found its embodiment in the Second International between the wars and which revealed its bankruptcy before Fascism.

What were the issues of controversy between Social Democracy and Communism between the wars? The Communist Parties developed from the militant corps of the old Socialist movement on the basis of the reassertion of Marxism against those tendencies in the Labour Movement which had travelled away from Marxism to practical acceptance of capitalism and imperialism. Social

Democracy developed as a continuation of the revisionism of the pre-1914 period.

Social Democracy in the economic sphere denied the Marxist analysis of capitalism and declared that modern monopoly capitalism—"organised capitalism," as they describe it, and especially American capitalism, Fordism—had solved the problem of poverty and provided the possibility for indefinitely expanding the progressive development without crises and with continuous improved conditions for the workers. Thus one of the leading trade union theoreticians of German Social Democracy, Tarnow, wrote:

> "We must distinguish two epochs in the development of capitalism; the epoch of British capitalism, which was limited in its possibilities of expansion, and the epoch of American capitalism, which on the basis of the latest technical advances, can unendingly expand and develop.
>
> "For the first epoch, Marx and Lassalle were typical. They maintained that wages are determined by certain economic laws, that they depend on the cost of Labour power, etc. For the second epoch, Ford is typical. He proved that capitalism can prosper, while the workers need not at the same time remain poor."

Corresponding to this economic theory, in the political sphere Social Democracy denied the necessity of a Socialist movement and declared that the forms of parliamentary democracy guaranteed a peaceful transition to Socialism without the necessity of any basic change in the character of the State. This conception of democracy was held up and exemplified in its model form in the Weimar Republic, which was based on universal suffrage and all the other formal democratic liberties, but which in fact carried over untouched the old State apparatus—the military caste, the Law Courts and bureaucracy, the Junkers and the big industrialists, who under the protection of Weimar democracy built up the power of Hitler and Fascism.

Thus one of the principal leaders of Social Democracy, Otto Bauer, wrote in his book, *Capitalism and Socialism*, in 1931:

> "The working class of the industrial States must go along the road to Socialism, not by way of civil war and dictatorship, but peacefully avoiding the terrible sacrifices of civil war; they must take the peaceful road, which alone makes possible co-operation with the industrial bureaucracy and with the peasantry.

> "The way of democracy may seem longer than the way of force, but it is undoubtedly the way which is accompanied by less sacrifice of well-being, freedom and human life."

This was written three years before the Civil War in Austria and the victory of Fascism.

Finally, Social Democracy opposed working-class unity and maintained extreme hostility to the Soviet Union. This was manifest from the first days of the Bolshevik Revolution, when Brailsford wrote in the *Herald* of November 7th, 1917:

> "This month is likely to stand in our memories as the blackest of the war. It began with disaster in Italy that has been followed by a second Russian Revolution."

This attitude was intensified, as the Russian workers rapidly grew in strength, to complete denial of the Socialist character of the Revolution, a denial of its economic achievement, prophecies of impending economic catastrophe and breakdown, and calls for its armed overthrow. Thus the resolution of the Brussels Congress of the Second International in 1928 declared:

> "Eleven years after the Revolution the persistence of economic crises shows that the régime of dictatorship by a terrorist minority prevents the development of the productive forces of the country [this in 1928, the first year of the Five Year Plan! Taking that year as 100, the index of industrial production in the Soviet Union two years later stood at 157·6!] while it prevents the Russian workers from defending their interests and holds under its domination nationalities which it oppresses."

At the same Congress Dann declared: "For us, world peace depends on the liquidation of Bolshevism," and Kautsky wrote in his *The International and Soviet Russia*:

> "For years the Soviet Government has been chiefly occupied in enslaving, unnerving and stupefying the proletariat, both inside and outside of Russia. . . . Soviet Russia is at the moment the greatest hindrance for the rise of the proletariat in the world —worse even than the infamous régime of Horthy in Hungary and of Mussolini in Italy.[1]

[1] p. 11.

> "Like every other military despotism, like the military monarchies of the Romanovs, the Hapsburgs, the Hohenzollerns, this despotism can only be overcome by force."

Such was the suicidal, blind outlook of the leaders of Social Democracy in the years between the wars. Can any serious Socialist wish to revive that outlook to-day?

Historically, experience has dealt a smashing blow to these false theories and illusions, although this does not mean that they do not continually revive anew from the conditions of capitalism, and need to be continually combatted. The world economic crisis brought crashing the theories of the end of crises, of harmonious capitalist development and of the American miracle. The offensive of Fascism shattered the illusions of parliamentary democratic legalism; the war of the united nations exploded the prophesies of the economic, political and military collapse of the Soviet Union and demonstrated its role as the foremost fighter in the battle for world democracy and world peace. This bankruptcy of the old, false theories had to be admitted even by the leaders of Social Democracy. Thus the Manifesto of the Executive Committee of the German Social Democratic Party in 1934, after the conquest of power by Hitler, declared:

> "The political transformation of 1918 ended up in a counter-revolutionary development. . . . The Social Democratic Party took over control of the State without opposition, sharing it as a matter of course with the bourgeois parties, the old bureaucracy, and even with the reorganised military forces. *That it should have taken over the old machinery of government virtually unchanged was the great historical error committed by a German Labour Movement which had lost its sense of direction through the war.*"

Similarly, Otto Bauer, whose opinion in 1931 we have quoted, wrote in 1934 on the lessons of the days of February, 1934:

> "The days of February, 1934, have taught us an impressive lesson. At that time we buried, not only our dead, but also our errors and illusions. A whole epoch in the history of the Austrian working-class movement came to an end. The Austrian workers believed that Socialism could be realised by democracy, in peace. The Fascists have shot democracy to pieces. They have

taught the Austrian workers that there is no other choice: either the dictatorship of Fascism or the dictatorship of the proletariat."

In Britain also the experience of MacDonald, Snowden and Thomas will be remembered, and the most recent pamphlet of the Labour Party on *The Rise of the Labour Party* has to recognise that the second Labour Government fell because of the false theories of its leaders:

> "The Labour Government [1929–31] was hampered by the hesitations of its own leaders, who were already departing far from its Socialist past. It failed to take adequate steps to deal with unemployment . . . it failed in the crisis of 1931 when its own leader and a few of those closest to him (including Philip Snowden and J. H. Thomas), who were thereupon expelled from the Party, formed a National Government of Tories and Liberals with a few Labour renegades."

In this way Social Democracy was compelled to pass sentence on its own record in the inter-war years.

This bankruptcy of the old Social Democracy before Fascism was not only theoretical and moral, but also practical. The German Social Democratic Party joined unanimously in the Reichstag vote in May, 1933, after the Communists had been outlawed, in support of Hitler's policy. The majority of the French Socialist Party deputies in Parliament after the Communists had been outlawed joined in voting special powers to Pétain in the summer of 1940 which established the Pétain Fascist State in France. The Chairman of the Belgian Labour Party, de Man, after conducting his campaign for neo-socialism against Marxism, passed over to the Nazis in 1940, and was revealed to have been already for years previously the agent of Hitler. The Finnish Social Democratic Party lined up behind Hitler in the war, and its leader, Tanner, has now been sentenced as a war criminal.

Who dares to wish to revive to-day this shameful record? We have entered into a new epoch in which big lessons have been learned by the working-class movement from the experience of Fascism. Working-class unity, which already began to develop in face of the onset of Fascism during the years before the war, was enormously enlarged and strengthened within the resistance movement in the struggle against the Nazi occupation, and has now swept forward in the majority of the countries of Europe. In a

series of countries the question of fusion to form a single united workers' party on the basis of Marxism has come on to the order of the day.

On a world scale, this unity has found expression in the establishment of the World Federation of Trade Unions, uniting over 60 million workers of all countries, irrespective of nation, race or colour. We may well imagine how this mighty development of international working-class unity would have warmed the heart of Marx. The old false theories and illusions still continuously spring up anew and have to be combatted, but the experience of Fascism has brought a deeper understanding of the nature of democracy and of the necessity that democracy shall not tolerate Fascist reaction or its supporters.

Thus the Second World War which developed from the contradictions of imperialism, as the First World War had done, took on a basically new and different character from the First World War, because of the decisive new character of the world situation arising from the general crisis of capitalism, the victory of Socialism in the Soviet Union, and the counter-offensive of Fascism against the working class in Europe. The Second World War developed from the outset as a war of liberation against Fascism from the earliest stages of the resistance of the Chinese people to Japanese Fascism; from the resistance of the Abyssinian people to Italian Fascism; from the resistance of the Spanish Republic with the support of the International Brigade and of the Soviet Union against German and Italian Fascism. All the efforts of the imperialists could not defeat or check this basic development of the war of the people for liberation against Fascism. Neither the imperialist backing of Hitler and his rearmament, nor the imperialist plans of Munich for a *bloc* with German and Italian Fascism against the Soviet Union; nor the imperialist phase of the war launched by Chamberlain and Daladier with all the main forces turned against Communism and the Soviet Union and the phoney war in support of Hitler—all of these were swept aside by the powerful historical development which led to its final culmination in the establishment of the world alliance of the United Nations and the military downfall of Fascism.

So to-day we come to the great issues of our period following military victory over Fascism. We are moving now to a period of enormous opportunities, awakening and change—with the defeat of Fascism, the establishment of the United Nations, the collapse of

old political forms, the old ruling classes discredited by collaboration with Fascism, the growth of mighty mass movements and mass Communist Parties, new democratic Governments and new forms of democracy—real popular democracy—;Asia awake, and the fire of popular upsurge spreading through India, Egypt, Indonesia and all the colonial countries, and in Britain the defeat of Toryism and the first Labour Government with a Parliamentary majority as the first signal of the profound political transformation that is opening.

In the face of this enormous advance, we should not be surprised that the offensive of reaction is renewed. The old ruling classes fear the advance of the people after liberation following the downfall of Fascism. It is therefore no matter for surprise that at this moment a campaign of hostility is let loose against the Soviet Union, against Communism and against the new democracies, and that attempts are made in all kinds of devious ways to revive Fascism. Fascism has been militarily defeated, but is not yet politically destroyed and we have still to fulfil the obligation undertaken in the Crimea Agreement, "To destroy the last vestiges of Nazism and Fascism."

At the present moment it is opportune to recall those final speeches of Goebbels made only a year ago before the collapse. In these speeches Goebbels indicated the plans of Nazism for after the military collapse. He described how Europe and Germany would be divided between the Anglo-American victors and the Soviet Union, and how Eastern Europe would be organised behind an "iron curtain" (it is worth recalling that it was Goebbels that first coined this phrase "the iron curtain," the description of Soviet-occupied Europe which has since been so often repeated by all our publicists), and how this would give rise to the new World War III between the Anglo-American Powers and the Soviet Union. And it was on this basis he declared that Nazism would thrive. If we bear in mind this planned strategy of Nazism it is impossible to fail to see how actively that plan is being pursued to-day with the support of all the reactionary elements in all countries.

It is here that arises the significance of Churchill's speech. Churchill is adopting the language and the slogans of the Anti-Comintern Pact and even the racial theory of Anglo-American world domination. Goebbels, in whatever particular hell according to his own brand of theology he may be roasting, may well rub his hands over his new convert. Churchill now turns in fury upon the Soviet Union and the Red Army, for whom in the hour of danger

he had no words of tribute too high. We need not be surprised at this ingratitude; the familiar gratitude of the English ruling class to those who gave their sweat and their blood has been immortalised in the words of the favourite poet of Tory Imperialism:

"*For it's Tommy this and Tommy that and Tommy fall behind,*
But it's 'Please to walk in front, sir' when there's trouble in the wind.
And it's Tommy this and Tommy that and chuck him out, the brute.
But it's 'Saviour of the world' when the guns begin to shoot,
And it's Tommy this and Tommy that and anything you please,
But Tommy's not a blooming fool, and you bet Tommy sees."

We need not push the analogy too far, but we can certainly say that the Soviet people are not blooming fools and the Soviet people see.

When Churchill lectures on freedom to the people of the world the irony becomes rich—the arch-apostle of British Imperialism and of the counter-revolutionary wars and intervention lectures on the principles of freedom and democracy to the really democratic governments of Eastern Europe where they have cleared out the landlords, taken over the big enterprises, and the people have become masters of their own countries. Churchill tried to present Greece as the model of freedom! Unfortunately, Sophoulis let him down the next day, when the Prime Minister of this free and sovereign country sent a telegram to London asking permission to change the date of the elections, a request which was sternly refused.

No doubt when we have reached the situation that we have to send a telegram to Washington for permission to hold elections in this country, we shall also have reached the ideal "freedom" according to Churchill.

At this moment when in India, or Egypt, or Indonesia hundreds are being shot down in the struggle for their national freedom, and in Cyprus the leaders of the trade union movement are thrown into jail, and the possession of Marxist literature is declared to be a crime, we may well demand what sort of freedom is this which Churchill proposes to spread with military power over the world.

Never should they get away with insolent and hypocritical talk about freedom and democracy. We Communists are the most consistent fighters for freedom and democracy for all the peoples of the world—freedom for the overwhelming masses of the people, for the 99 per cent. and not for a few exploiters to oppress the people.

The British people to-day stand before a great choice. Either

forward with the advancing peoples of the world, with the Soviet Union and the new democratic governments and the colonial peoples, or back to enslavement, to Anglo-American finance, with Britain as the pawn of Wall Street and the victim of a future world war which reaction is working to bring about.

Churchill's policy is not merely anti-Soviet—it is anti-British. It is the voice of Tory reaction and American finance which fears the advance of the Labour Movement and of Socialism in Britain. We should tell Churchill we want no Wall Street Fifth Column here.

The British people have declared in the General Election where they stand and what their wishes are. They have declared for the end of Toryism and for great social changes in this country. On this basis, the Labour Government has been brought into existence for the fulfilment of a programme of far-reaching democratic reforms. We Marxists welcome the formation of the Labour Government and will fight with all our strength for the successful fulfilment of the programme of democratic measures which the Labour Government stands committed to, against all attempts of reaction and monopoly interests to hold up that programme. At the same time, we recognise that this is only the beginning of the changes which will have to take place in Britain. We have no illusions as to the character of the struggle in front of us. Nationalisation, which only changes the form of administration but not yet the real class relations of property, is not yet Socialism. The fight for Socialism is still to be carried through. Toryism has been defeated at the polls, but Tory policy is not yet ended in the seats of Government. This is especially manifest in the sphere of foreign policy. Here we may usefully recall the words of Marx in the inaugural address to the First International:

> "If the emancipation of the working classes requires their fraternal concurrence, how are they to fulfil that great mission with a foreign policy in pursuit of criminal designs, playing upon national prejudices, and squandering in piratical wars the people's blood and treasure?"

In our home policy there is also much to be done to strengthen the measures against the big monopoly interests, to speed up demobilisation and the change-over from war to peace, to carry through the great peace production plan for the development of the productive resources of the country, and to advance a policy of rising wages and social standards.

The danger of Fascism is also not yet ended in this country, and the example at the Albert Hall yesterday has shown that the British people want no Fascism here.

For all these tasks, the unity of the Labour Movement is more necessary now than ever, and specifically the unity of the Communist Party and the Labour Party, for this means the unity of Marxism and the mass movement which is the guarantee of future victories. To the *Daily Herald* leader-writer who declared that the affiliation of the Communist Party would represent a dose of poison for the Labour Movement, we would declare that it was not the poison of unity which killed the German Social Democracy, but the poison of disunity. We may recall the words recently expressed by the Chairman of the Executive Committee of the German Social Democratic Party, Max Fechner, when he said:

> "The differences which formerly divided Socialists and Communists have largely been settled by history. We shall go back to the genuine scientific socialism which was the foundation of the workers' movement. Marx and Engels will again be our great teachers."

We fight to prevent the third world war, which is not inevitable and can be prevented by the unity of the peoples, and especially by the friendship of Britain and the Soviet Union. We fight for international democratic co-operation and the freedom of all peoples, including the peoples of India, Asia and Africa, advancing to their independence. We fight for democratic and social advance, to speed the change-over to peace production and to bring better conditions to the people, for the success of the Labour Government, which requires the unity of the Labour Movement.

We fight for the unity of the Labour Movement, which is indispensable to victory over capitalism. We fight for the great aims of Socialism, which can alone solve the problems of the modern world and bring peace and happiness to all people.

On this anniversary we go forward with greater confidence and enthusiasm than ever. The spirit of Marx and of Marxism and of the millions of fighters who have gone forward under the banner of Marxism guides and inspires us. We may recall that story which Hyndman told, who did so much pioneering work in his day for Socialism, but remained the respectable, top-hatted, frock-coated clubman. He relates how he informed the aged Marx with his typical ineffable worldly wisdom and self-satisfaction: "As I grow

older I grow more tolerant." And he states that the old Marx turned upon him his burning eyes and only said: "Do you? Do you?" The flame that burned in Marx burned higher and higher to his dying day. Marx never grew tolerant of the bestiality, the hypocrisy and the cruelty of class society. The spirit of Marx was that spirit of Communism which inspired the fighters of the resistance movement to face all the devilries of Fascism, which inspired Stalin when he declared:

> "You may have no doubt, comrades, that I am prepared in the future, too, to devote to the cause of the working class, to the cause of the proletarian revolution and world Communism, all my strength, all my faculties, and, if need be, all my blood, to the very last drop."

Let us be worthy of this great movement of which we form a part, and commemorate this anniversary by renewing our resolution to carry forward the banner of Marxism to final victory—the victory of free humanity—of Communism.

The Mechanism of Evolution (Part 1)

By Georges Teissier

ALTHOUGH no serious biologist nowadays doubts the reality of evolution, many who have not studied the problem themselves still hold that its mechanism remains unknown. Others, who have been led astray by quite indefensible prejudices, go yet further and affirm that it is unknowable, since the evolutionary forces which, without doubt, acted in the distant past have long since disappeared from our enfeebled world.

There is nothing to excuse this irrational attitude or to justify this systematic pessimism. The problem of the origin of species will certainly require a great deal more investigation before it can be considered completely solved, but in this respect it does not differ from many other problems of biology. On the other hand, what we already know of it is of great importance. We now have a consistent theory, every point of which is justified by a large number of concordant facts or critical experiments; we have even succeeded in creating species as genuine as those described by Linnæus. It will be seen in what is to follow that recently-discovered facts, many of them known for less than fifteen years, fit quite naturally within the framework of the doctrine laid down three-quarters of a century ago. We shall also see why Darwinism is to-day more alive than ever.

The obstacles encountered at the outset of any study of evolution arise from its very nature. From whatever side it is considered, the problem is of a vastly greater scope than any other biological question. The first and fundamental difficulty is in the duration of evolution, which began 2,000 or 3,000 million years ago and continues even now. Although its form of expression has varied widely from group to group, one may say (thinking only in orders of magnitude) that a species normally lasts for several hundred thousand generations. By the standard of the duration of a single human life, evolution is very slow, and we have no reason to believe that it was ever swifter. A naturalist carried back to the Palæozoic or Mesozoic epochs would find there a Nature apparently as stable as that before our eyes. Man is as ill-placed to study evolution as a creature living only a few seconds would be to study the annual cycle of the seasons. In the most favourable cases he could only follow, in the 25,000 or 30,000 days granted him, a few

score or a few hundred generations of the species interesting him, and he has only the very slightest chance of seeing them evolve before his eyes. Further, the very rare changes produced in our day in the animal or plant kingdoms may not be recognised with certainty, since there is no really complete inventory of fauna and flora. There are, for example, more than 100,000 known species of fish, and it is probable that a genuinely new type appears every ten or twenty or fifty years. How could we recognise it as such, when every year specialists describe several hundred species, obviously long-established, but hitherto unknown?

A second difficulty, and, it must be realised, a pretty big one, is the breadth of evolution, which has gone on, through countless forms, from an ultramicroscopic being simpler than the simplest of microbes to beings as complex and as fundamentally different as are sea-urchin and octopus, bee and man. The meagre modifications of nature which man has witnessed or which he has brought about are very small matters compared with these enormous changes of form, structure and function. But at the same time we must admit that if these tiny changes were completely explained, the problem of evolution would be very nearly solved.

One of the greatest merits of the founders of evolutionary transformationism is, indeed, their realisation that it was not possible to limit the scope of evolutionary theory, having once accepted the principle, and that it must explain everything or nothing. But this fortitude has terrified a good many timid souls who have tried to reconcile an unconfessed belief in immutability, with an evolutionism emptied of the best of its content. There is no intellectual attitude less reasonable; an evolution powerful enough to transform species but too weak to upset the framework of phyla, classes, orders, families or even genera, is quite inconceivable. The systematic limits which the partisans of a limited transformationism claim to be uncrossable have, in fact, no objective existence, and the barriers which some wish to place at the boundaries of phyla, and others at those of the genera or families are as illusory in one case as in the other. To be convinced of this it is enough to compare the tables of contents of two contemporary works on zoology of two different schools. The same family will be found placed in two different orders, the same order changed from one class to another or even from one phylum to another. These differences of opinion are not the result of individual whims, but betray the real embarrassment in which all naturalists find themselves when faced by

certain "anomalous" creatures. It is a fact that *Balanoglossus* has the form of a worm, the development of an echinoderm, and several characteristics of the Chordates; that is, it is very close to the vertebrates. It is a fact that *Peripatus* combines the unmistakable characteristics of the worm with equally unmistakable characteristics of the arthropod. It is also true that *Archæopteryx* is almost as much reptile as bird. Where are we to place these composite creatures which were numerous among vanished fauna, but many of which still exist in Nature to-day? Any solution the zoologist adopts must always include a large proportion of the arbitrary, and the present tendency to break up the older phyla into more and more sub-phyla, and to multiply classes and orders, only emphasises the increasing difficulties of the problem of classification. These contradictions and uncertainties are inevitable because the strict limits implicitly postulated by every attempt at classification do not exist in Nature. They do not lessen the importance of zoology or botany which are carried on in the knowledge that they are and will necessarily remain imperfect, but they completely condemn all fragmentary theories of evolution. There is not a "micro-evolution" and a "macro-evolution" interpretable in two different ways, of which one must be eternally beyond our reach: it is only evolution which we have to explain.

Biology will develop as geology did. The latter became a true science when it understood that all the transformations undergone in the past by the earth's surface could be completely explained by contemporary phenomena. We know now that enormous mountain ranges have been raised and levelled, that these have been replaced by other ranges, which in their turn have been destroyed without the intervention of any forces other than those which from day to day shape the surface of the world. Similarly, in the problem with which we are dealing, we must, if we are to work scientifically, lay down the principle that there have never existed other evolutionary forces than those which, acting beneath our eyes, are infinitely slowly changing the creatures by which we are surrounded. It is scarcely possible in a lifetime to see more than new races appear, but the mechanisms which give birth to these races are beyond doubt the same as those which, acting for hundreds or thousands of centuries, created and will continue to create new species and genera. We must even admit that as age succeeded age these same mechanisms have been able to create orders, classes, and even phyla as dissimilar as those which we see living to-day.

The great problem of evolution is thus brought within reach of human analysis. The first and most urgent task, that which will lead to the understanding of the mechanism of the greatest transformations, is the precise analysis of the factors transforming races. This analysis must naturally be carried out by the methods in use in all experimental sciences. Therefore we must shield it at the outset, not only, as we have already said, from any appeal to mysterious evolutionary forces past or present, but even from the Lamarckian interpretations which, in theory as in fact, are expressly refuted by experiment. The only acceptable solution is still, after three-quarters of a century, that which Darwin developed in his *The Origin of Species.*

Those who study evolution in books or in museums have very different conceptions of it. But all who have studied the problem as biologists and not as anatomists, all who have realised that a species is not a series of specimens arranged in a case any more than it is a collection of pure strains raised in a flask, but that it is a changing assembly of beings which are born and die—all these are Darwinists.

I. Principles of Darwinism

All Darwin's predecessors and a very large number of those who followed him sought an explanation of evolution in unverifiable hypotheses. Darwin looked for it only in the results of experiment, and he was particularly well qualified to understand the full significance of an experiment to which all humanity has contributed. It would, in fact, be impossible to imagine a greater or more striking experiment in evolution than that carried out by the unknown farmers and breeders to whom we owe our countless races of domestic animals and cultivated plants. The experiment began at the dawn of civilisation and continues still. Our fields, our gardens, our stables and our fowl-runs are the notebooks in which year by year are recorded its successes and its failures. Darwin was the first to learn how to read from this notebook, and no important change has to be made to-day in the lesson which he drew from it.

All species, whether animal or vegetable, have been improved in the same manner, and the creation of a new race has always passed through the same stages:

1. The first stage is a matter of chance alone. One day there appears in the stock an individual showing a characteristic which

for some reason, utilitarian or æsthetic, seems to merit preservation. This advantageous characteristic (advantageous for the breeder, of course) may only be the accentuation of a peculiarity already existing in the stock, but it may also, although very rarely, be quite new.

2. This exceptional individual is chosen for breeding and its descendants of the first, second or third generations, are examined for the appearance to some degree of the characteristic that one wishes to preserve. If it is discovered, and it doesn't always happen that it is, only those individuals are used for further breeding which are beginning to take the form of the future race. It is this *selection*, repeated as rigorously as possible in the following generations, which is the essential act of creating the new race. Carried out for a long enough time, this methodical choice must result in the isolation of a strain in which all individuals have, to a greater or a lesser degree, the characteristic upon which the selection has been based.

3. This strain is henceforward stable. It will be enough to keep it pure by preventing any crossing which might alter it by bringing in foreign blood. The race thus constituted will differ from that which gave it birth, not only by the character deliberately selected, but also very often by other very slight traits of organisation which, although unsought, are found to have been selected at the same time.

Every attempt to better any animal or vegetable species must necessarily pass through these three stages. The creation of the new race may be more or less simple, more or less swift, but once a *variation* has been produced there must always be a *selection* of the individuals which display it, and once the purity of the strain has been obtained, there must be an *isolation* of it. This is the decisive combination of facts of which Darwin understood the full significance.

Since the technique of the breeder is the only one which serves to create a new race, then, short of renouncing the principles of scientific reasoning, one must explain the transformations of the animal world by the very mechanisms which man has discovered and used to his advantage. Nor must we underrate their effectiveness. If in our experience they only bring about the minutest changes in the form of beings, they yet suffice, if their action is carried on indefinitely, to explain the most profound transformations.

A single human generation could not, of course, succeed in transforming the wild dog, so similar to the wolf, into a being as

different from it and from one another as a basset-hound, a mastiff or a greyhound. It is because our ancestors began ten or fifteen millennia ago the task still carried on by breeders to-day that these races exist, that the attempt to "perfect" the dog has brought about these results, as well as many others no less remarkable. Nothing justifies the belief that this task must ever be finished or that there is a limit to the possible diversity of species. On the contrary, the more numerous existing races are, the more numerous also are the possible races; and the tempo with which they appear is going to increase. What surprising types we could achieve if only time were not so niggardly measured out to us! In this field, however, as in others, man works more swiftly than Nature: while wild types remain stable for millennia, those which man wishes to transform change from decade to decade. But Nature has no need to hurry: 1,000 centuries occupy less space in the history of evolution than does a day in our life. Were Nature to employ, however slowly, the same methods that man does, she would obtain results beyond the wildest dreams of the boldest among us.

Thus we arrive at a rational explanation of the origin of species. But it is still very vague and can only take shape if we find in Nature the equivalent, step by step, of the human technique of the creation of races. For the first and for the third stages there is no very great difficulty. Everyone agrees in recognising that the variability of wild species does not differ essentially from that of domestic animals. Several independent and equally effective mechanisms can assure, without man's intervention, the sexual isolation of a race in process of being formed. But what mechanism can we discover to replace that act of will which is the selection by the breeder of certain privileged progenitors? The triumph of Darwin is to have understood the logical necessity of a *natural selection* free from all teleology and to have discovered its mechanism.

The preceding remarks will suffice to make clear the origin and import of the principles on which Darwin's theory is based, and there is no point in developing them further here. Everyone knows how passionately the discussions of Darwinism and its cornerstone, natural selection, have been conducted. Most of the arguments raised by challengers of Darwinism are now without interest, but some, advanced by one side or the other, appear to have retained their force. None of these, singly, is convincing. Most of them lack, in fact, that logical exactness that one has a right to demand in so

serious a discussion; there is almost none that may be supported by a properly conceived and correctly carried-out experiment. It is therefore hardly surprising that these controversies, which are always springing up again, and of which Darwinism has been either the object or the occasion, have never been able to reach a definite conclusion. To escape from this *impasse* we need arguments other than those with which our predecessors have had to be content. It is from genetics that we shall seek them, for the modern theory of evolution was born of the collaboration between genetics and Darwinism. Here we touch the anonymous labours of a whole generation. Constructed apart from any philosophical dogma, on exclusively rational and scientific bases, it has neither principle nor hypothesis peculiar to itself, but flows in with the great current of thought that stems from Darwin. Genetics has brought to it not only an immense documentation of everything concerning variation, heredity and the factors conditioning sexual isolation, but also—especially—its techniques and its strict spirit of experimentation. Thanks to these methods, the study of natural selection has been taken up afresh with an entirely new preciseness. To-day it constitutes a new chapter of genetics, *evolutionary genetics*, which, while still quite recent in origin, already shows a profound originality. There is no other branch in all biology to which men of more different backgrounds have contributed, for its advance depends upon the converging labours of morphologists, experimentalists and mathematicians. It is the provisional outcome of this work of collaboration that we are now going to present.

II. Natural Selection

Logical Basis of the Hypothesis

The phenomenon dominating all biology of natural populations is the incredible capacity of living beings for proliferation. Whether one accepts or rejects the theory of natural selection (of which this is the starting point) it is always necessary to keep in mind the fact that in every species the number of births is always much higher than the number of individuals who attain the age of reproduction. Under natural conditions scarcely one in ten of even the most favoured species arrives at adulthood, while the proportion is more often of the order of one in a hundred or even a thousand. With the majority of plants, many marine animals, and almost all parasites it is smaller still, and cases are not rare in which only one

individual in several millions survives. This elimination of the greater part of the young is a necessary condition for the maintenance of the equilibrium of the living world, and if it is attenuated in some species through a fortuitous cause the species becomes overwhelming. The destruction of the larger carnivora has brought about an excessive multiplication of the herbivora. Animals carried abroad by man, whether deliberately or not, have often increased enormously in countries where they have met with few enemies: thus with the horse in South America, the sparrow in the U.S.A. and the rabbit in Australia. If a miracle were to spare any species this slaughter of the young there would soon be no place left on the surface of the globe for any other. The products of the division of a bacterium could, in several days, swamp the oceans; the descendants of a fly would in a year surpass the volume of the sun. Without going so far, in ten years the number of descendants of a couple of sparrows would be several millions and that of a pair of rabbits thousands of millions. Even the elephant, whose development is very slow, and fecundity weak, would in five centuries have fifteen million descendants. Yet there has doubtless never been at one time more than a few tens of thousands of elephants on the globe.

It has not really been pointless to cite these few examples, for Darwin himself admitted the difficulty he experienced in always keeping in mind the essential fact which they illustrate. No biological law is, however, more general than that which declares that in every species death before maturity is the rule and the arrival at adulthood the exception. None has more important results for the peopling of the earth. It is upon this law that Darwin based the entire mechanism of evolution.

The theory of natural selection affirms that the destruction of innumerable young creatures, found inevitably in every generation of every species, is not simply a matter of chance; the individuals that survive generally possess certain qualities lacking in those that succumb. Those that are more vigorous or better adapted than their brothers have some opportunity of leaving to their descendents the qualities which have permitted them to survive. Thus there is made in each generation a choice of the best individuals, and this constantly repeated selection gradually changes the species.

This idea of the "survival of the fittest" in which is found the

essence of Darwinism, has been the object of so many tendentious glosses that the extremely clear meaning that it had in the thought of Darwin, who many times expressed it in the most explicit manner, has often been lost to sight. For Darwin, as for those of his successors who may alone legitimately claim descent from him, the qualification "fittest" only has meaning in the precise conditions in which the animals, competing with one another, find themselves. The qualities to which it refers are strikingly varied from species to species, and for a given species depend essentially on circumstances. In a species in which cold kills off the greatest number of the young resistance to cold is the most useful endowment. In a species of which many of the young fall prey to the carnivora the fittest may be either the most agile or those whose colour makes them less visible, or even those that have a particular skill in disguising themselves; and this list does not exhaust the possibilities. These advantageous characteristics are often not marked by any visible peculiarity; two animals may appear identical, but resist unequally a rigorous winter. But they may also have a relation to certain traits of organisation or structure. Thickness of fur is not unimportant for an animal exposed to cold; the shape of the paw is important for speed in running. It may thus happen that, if the hypothesis of natural selection is exact, those of the young which are going to survive differ from those who are going to perish by morphological as well as by physiological characteristics.

But the question which arises is whether the hypothesis is well founded, whether natural selection exists, and if so whether it has the dominating capital role that Darwin believed it to have.

Conservative Selection and Incipient Selection

It is possible, as we shall see later, to make an experimental study of natural selection, but for the present we must turn to simple observation for the maximum information which it can give us. To guide us through this chaos of facts we shall use that method which has led to the idea of natural selection: we shall see whether in accepting the Darwinian hypothesis we ought not to expect the living world to show certain characteristics that it would not show in a universe where the hypothesis was not true.

In the first place every species necessarily shows an adaptation adequate for the conditions in which it lives, an adaptation without which it would rapidly disappear before other and more favoured

species. Such an equilibrium—which implies that a great number of physiological characteristics such as those which condition resistance to disease or changes of weather, the ability to make use of available food, fecundity, vigour of the young, is maintained at a certain level—is not compatible with any change whatever in the constitution of the species. In so complex a mechanism a modification made by chance is most likely to be harmful. And we know in fact that almost all mutants are less fecund or less vigorous than the wild type; so we ought also to expect selection quickly to eliminate these dangerous novelties and thus work to maintain specific characteristics. Think only of the strange appearance Nature would have if, there being no natural selection, each animal or vegetable species could have had as many varieties as man allows our domestic animals, or garden plants show. Without natural selection there could be neither species nor race and the living world would be a chaos of separate individuals. The existence of this conservative selection is unanimously accepted, but not all its supporters have appreciated its consequences, the most important of which is the necessary existence of "creative" selection. One could not, indeed, without a logical contradiction, see in selection an effective agent for the maintenance of the average qualities of a race and at the same time deny that in other circumstances it could profoundly transform essential characteristics of the species.

The fact that almost all mutants are discriminated against by natural selection only means that at long intervals some favourable mutation may arise and live and sometimes even substitute itself for the type formerly normal in the species. But this eventuality is much less probable when the species has had a very long past, when a very great number of mutations has been tried and when many useful variations have had the time to become established. Here we have under another aspect, touching very closely the problem of evolution, the reason for a fact which has just been mentioned: practically all mutants have a lower vitality than the representatives of the original type. This is also the explanation of one of the most striking results of palæontology. If evolution, always swift at the origin of a group, slows down rapidly as this group gains some importance, it does not mean that the group's evolutionary faculties have become exhausted, but simply that a chance modification has fewer chances of being favoured when it appears after a very great number of improvements of detail in an organisation which remains subject to the same conditions of

existence. Instances of the substitution of a mutant for the normal type in its own habitat are, then, very rare. One cannot even be sure that such cases as are apparently well founded are not in reality the result of a change of environment that one has not been able to discern. In fact, the best-known case—that of the birch moth, which around 1860 produced a black mutant which is obviously tending to supplant the normal form, and has succeeded in doing this in several regions, probably should not be interpreted as a simple case of substitution; for this species as for others, the replacement of the paler forms by the dark ones has regularly followed increase of industrial development in the relevant districts, a development naturally accompanied by important changes in the local flora and fauna.

Changes in the environment or changes of habitat must in fact have played an important role in the differentiation of the species. It is so far clear from the argument that if the environment changes, the "selective values" of adaptations both existing and possible also change. That adaptation which, after the genetic possibilities of the species and the external conditions have been taken into account, is discovered to be the best will not be as suited to the new conditions; another adaptation, formerly ineffective because insufficient, will become superior to the former and will henceforth be favoured by selection. Such a physiological characteristic, hitherto of small importance, may become a decisive factor for success: so with resistance to cold during the Glacial Age or with ability to create appropriate antibodies before and during an epidemic.

This effect of environment is not doubted by anyone, and "transformationists" are agreed in admitting that it has played a great part in evolution. But when it comes to estimating the importance of that part certain differences of opinion appear. For a long time this effect of external conditions was considered a justification of Lamarckian theories, but it seems to be well established to-day that the sole but strikingly important effect which a change in external conditions may have is to give possibilities latent in the species an opportunity to show themselves. We must now define the nature of these latent possibilities.

For certain mutationists, the fact that a change of environment allows new characteristics to show their usefulness is only a sign of the "externalisation" of qualities already existing, but formerly,

since they were unimportant or superfluous, hidden. Thus the stickleback has the quite exceptional peculiarity of being able to live equally well in water of any degree of salinity—a quality quite useless in the fresh water that is its normal habitat, but allowing it, if necessary, easily to colonise brackish streams, in which it takes on certain peculiar characteristics. In this case and in others more or less analogous the fact requiring explanation is not the origin of this or that adaptive characteristic, but rather the genesis of the corresponding ability to undergo adaptation. This shifting of the problem may, in some instances, have a great physiological interest, but it is obvious that as far as the question we are discussing is concerned it is almost valueless as an explanation.

Darwinists do not dream of denying the existence of a "pre-adaptation" which allows most species to undergo radical changes in conditions of life without the least modification of their genotype; they argue, however, that the new qualities, revealed by very wide modifications of habitat, exist only in the same way as do many others, that is as potentialities in the hereditary equipment of the species. It is by accident that the genes conditioning the mutants have appeared in certain individuals which, better adapted than their fellows to the new environment in which they find themselves, alone survive to propagate the thereafter modified species. A change of environment or of climate may thus give new modes of selection an opportunity to bring about new directions of evolution. These continue until all the genetic possibilities of the species have been put to trial and until the final choice of the best and worst has been completed. Selection, "creative" for a time, will thus become conservative again.

Thus, by deeper analysis of the principles which are the foundation of Darwinism, we arrive at a quite remarkable conclusion: natural selection, if it exists, must be at once the agent which transforms the species and that which maintains their stability. The two aspects of selection, at first apparently opposite, now appear to us as complementary, the same mechanism being able in turn to transform or to maintain the forms, to preserve or destroy the genetic structures. But there is more in it than that. Very often the conservative and creative actions of the same type of selection must be operating simultaneously, since the choice which is exercised only permits or favours changes produced in a special direction, and pitilessly suppresses all the other attempts of chance. By the discipline which it imposes on the variations of the species, natural

selection appears to be the law preventing the living world from tumbling into anarchy. The evolution which it influences is a directed evolution which works tirelessly towards an agreement never fully achieved between the functions of each individual and the environment in which the history of its race has placed it.

The Faults of the Doctrine of Immortality

The "world of natural selection" which we have just sketched—in which the species, distinct at each epoch, scarcely evolve save as their conditions of life change radically—resembles our own world. We repeat that a world without natural selection would display complete incoherence. A world in which every individual of every species had equal chances of survival would be staggeringly changeable in detail without, however, showing real evolution. The number of forms genetically possible being infinitely greater than the number of inhabitants that the earth could nourish, each generation would see certain genetic combinations vanish and others brought into being. These necessarily fortuitous changes would, as it were in blind caprice, bring about a succession of advances and regressions and could even on occasion bring certain strains back to their starting point after long detours. Nobody, of course, would defend a conception which, followed to its conclusion, would lead to the idea of such an extravagant world. We have only depicted this world here to show by its absurdity that all naturalists must, whether they like it or not, accept the principle of natural selection, and that those who believe they reject it are deceiving themselves. Since we know with absolute certainty that in every species there are produced mutations able to affect every imaginable character, and that many mutants are perfectly viable and prolific, it is impossible to deny the existence of conservative selection. Once this has been accepted, it is impossible to see how one can reasonably doubt the existence of creative selection. It is, nevertheless, a fact that the debate aroused by the appearance of *The Origin of Species* has not yet come to an end. After eighty years' quarrelling it is also a fact that certain naturalists, and these not always the least important, continue to deny the importance of natural selection; or rather they do not wish to recognise the existence of a creative selection.

The persistence of these controversies is largely due to a misunderstanding, the word "selection" not having the same meaning for all who use it. I hope it will have been noticed that here it has

been given an extremely wide content. In speaking of natural selection, people often think too much of the struggle for existence in its most brutal meaning of a direct and generally violent battle for room and for food. This struggle exists and has an importance that, in certain cases, may be very great; but cold and heat, an excessive dryness or humidity are no less effective agents of selections than is hunger. There is in the normal habitat of a species nothing animate or inanimate, no physical or chemical agent that cannot on some occasion or other intervene in conservative selection. And in particular there is none which by some unforeseen variation may not be the material for a creative selection. If these extremely simple ideas were never lost to sight, the controversies on the mechanism of evolution would doubtless be less numerous. But since the controversies exist, and since the Darwinian conceptions still have obstinate opponents, we must first boldly meet the difficulties they raise and show that these may not validly be opposed to the modern theory of evolution. Chance alone, say our opponents, decides which among all living beings at each generation are to perpetuate their species. From this lottery, the prize in which is the hope of having descendants to whom to leave qualities and defects, only the infirm, the defective and the monstrous, the chosen victims of conservative selection, are excluded. All others are equal in the face of death, and Darwinists make a great mistake in claiming that the choice working in each generation is not blind, but takes some account of the characteristics of each individual. Once the abnormal are suppressed, death no longer chooses its victims.

In the justification of this thesis the "argument of the pond" is classic. Of the millions of tadpoles which throng the lakes and streams in spring only a tiny number reaches adulthood. The animals which hunt them and the sun which dries up the pond are indifferent to the various qualities which they may possess, and *a fortiori*, to those which they are likely to show later as frogs. How can one then believe, if only one in a thousand (or even fewer) survives, that this one owes its preservation to its own merits? Why not simply admit that he has had more luck than the others, any one of which could quite as easily as he have been called later to perpetuate the species, had luck favoured them?

To this argument it would be easy to reply that merely to raise a group of tadpoles would be enough to prove that they were not identical. Some grow much faster than others; if the water becomes

impure some individuals live on long after all others have perished. Both these factors are certainly not without influence on the outcome, fortunate or fatal, of the larval life. But even if one were to agree, in the face of the evidence, that the death of tadpoles is always due to random causes, how would this fact refute the hypothesis of natural selection? Between the moment at which the young reach their metamorphosis and that at which, having become adults, they return to the water to breed, the species must pay a heavy toll to death. But this tribute is doubtless very different from that imposed by Nature on exotic frogs, more completely adapted to life in air, who lay only ten or twenty eggs at a time. This mortality is strong enough for individual characteristics, favourable or unfavourable, to intervene and for selection to be operative among individuals having practically adult form. Mutationists are obviously right in claiming that it is not because a tadpole would become a frog capable of jumping farther than his fellows that he has better chances than his fellows of surviving the dangers of larval life. But they are wrong in not recognising that only those frogs have chances of surviving and of laying eggs which, during two or three years of life in the air, show themselves agile enough to escape their enemies and thus will bequeath at least part of these qualities to their descendants. The error of reasoning which we have just pointed out is instructive in that it shows that the limitless prodigality with which certain species spread their spawn has little importance in evolution. The enormous massacres which strike the imagination give us a picturesque but somewhat inexact picture of the scope of evolution. In fact, these huge destructions doubtless have no more selective value than the more discreet but persistent elimination which persists long after the "dangerous" stages of development.

If the preceding remarks are enough to show the feeble demonstrative value of the classic example of the pond, yet it does not follow that chance plays no part in the choice of victims. But here as elsewhere we must not use the word "chance" carelessly.

No one has ever claimed that the fate of a newborn animal has been rigidly determined in advance or that any one who knew its genetic and physiological characteristics could from this evidence alone know whether it would die or live. Its fate depends necessarily on the conditions in which it is going to find itself placed. The problem is to decide whether their physical constitution gives to all representatives of a species an equal chance of survival, or

whether, on the other hand, the probability of survival differs, at least under certain circumstances, from one individual to another according to the genetic constitution of each. To put it another way: in the contest which all genes constantly wage against death are their chances always mathematically equal? All properly carried-out experiments have given the same reply to this question and the reply is decisive: the chances of success of various allelomorphs are unequal, just as the theory of natural selection assumes them to be. In these conditions it is easy to demonstrate that it may exceptionally, and in certain restricted populations, happen that chance favours a gene that had, *a priori*, slight chances of success even to the point of making it supplant its rivals; the normal evolution of a population, however, is the gradual substitution of the more advantageous genes for those whose "selective value" is less. It must once more be made clear that the advantage of which we speak is not absolute but is relative to certain conditions of existence and to a certain kind of competition. When all these circumstances are exactly defined the selective value of a gene may, at least in principle, be precisely measured in terms of probability of survival.

The criticism—a convincing one, I hope—just made of the allegedly decisive argument of "undiscriminating death" will allow us briefly to dispose of a second assertion—as ill founded as the first, although it rests on a fact that is perfectly established.

The most clearly distinctive traits of species, genera or families, almost always relate to characteristics having by themselves no importance from the point of view of selection. One has only to dissect a plant or animal to prove this. Indeed, one cannot see how the fact of having sepals more or less obtuse or of having smooth elytra rather than downy ones may be advantageous or disadvantageous to a species. How could selection create species, since the characteristics which separate them are, in general, trivial? Transformationists formerly tried to reply to this facile argument by striving to find some usefulness in insignificant anatomical details. Their efforts were not always in vain; but often from excess of zeal they thought they had discovered subtle adaptations where probably none existed, and their opponents had a fine time deriding their too liberal fancies. Transformationists nowadays do not allow themselves to be dragged into these arguments, where affirmations are as valueless as denials. They simply note that the argument of

the unimportance of specific characteristics could only be upheld by those by whom an animal must be studied in a glass case and who only know of plants in the herbarium. They invite their opponents to look at a treatise on applied zoology or agriculture, or even a good horticultural catalogue, and to agree that the essential characteristics of a race are not generally those by which it is identified. The colours and shapes which serve to define it teach nothing of its ability to resist cold or drought, parasites or disease, any more than of its fecundity, its speed of growth or its relative ability to use the foodstuffs of the environment in which it is placed. Each of these characteristics is more important than any of those which may be noted by the most faithful systematist. What is true in the comparison of two races is obviously also true of that of two species, and if the physiological differences that may exist between these latter are generally unknown, one has nevertheless no right to declare without proof that they are negligible.

The qualities which man has tried to establish in the animal or plant species which he raises are, for the most part, of a physiological nature, but the races which he has created are distinguished by their external appearance. The selection of trivial characteristics has almost always accompanied that of the useful ones to which they are linked. On the other hand, the genecticist who isolates an animal differing from its fellows by having several hairs more or less, or by a detail of colour, selects at the same time characteristics which he cannot see, but which may just as well affect fecundity or longevity as larval mortality or resistance to poison or to hostile bacteria. What artificial selection does, natural selection can do and doubtless does. If man does not always understand the direction of the results which he obtains, it is because the appearance of a species tells one practically nothing of its qualities or its defects, any more than their differences of shape or colour will suffice to teach anyone who has never eaten grapes the really interesting differences between an Aramon, a Chasselas and a Muscat.

The fact that characteristics which are by themselves neither harmful nor useful may be the object of an active selection, since they are necessarily linked with hidden but important characteristics, obviously takes all force from the argument of the unimportance of specific characteristics. It does not, however, follow that we must commit in a new form the error of the older transformationists, and insist that any morphological peculiarity must always

be either directly useful or of necessity linked with an advantageous characteristic. Nowadays one knows too many cases of evolution that are beyond doubt harmful to be able still to believe that selection is inevitably leading the living world towards a kind of perfection. In thus admitting, as is demanded by elementary good faith, the imperfections of the living world, the Darwinist yet knows that he is not giving his opponents such redoubtable arguments as they imagine. The examination of a solitary but classic example will suffice to show us that this difficulty, the only one that may be validly opposed to the theory of natural selection, is by no means insurmountable.

In several groups of mammals the males possess weapons—horns or defences—more developed than those of the females, which often completely lack them. Palæontology teaches us that in a certain number of families evolution carries on in this direction, the males of successive species having greater and greater armament. In the last species of each series (which are also the largest) the horns or the defensive armour are so unwieldy and sometimes so complicated in form that they must beyond doubt be an embarrassment to their owners. The enormous horns of the great fossil elands or even those of the present-day stag are certainly less effective instruments either as tools or as weapons than the smaller and simpler ones which their distant ancestors bore. How can we explain the fact that Nature has so often, and almost as if she were pursuing a preconceived but irrational plan, produced these ridiculous instances of "orthogenesis"?[1] The examination of this problem will allow us to offer in evidence a perversion of selection which must have occurred in many other circumstances, and which is explained by a conflict between the interests of the individual and of the species.

When conditions of life are difficult, the struggle for food great, and an increased fecundity has as its natural result the death of the greatest number of young, every mutation which appreciably diminishes the probability of the survival of the individuals

[1] Palæontology has shown that in many evolutionary strains the differences of form, structure or size separating successive species are not random in nature, but seem to be produced in a definite direction. Thus the series of ancestors of the horse has shown at the same time an increase of height, a reduction in the number of toes, a gradual change in tooth formation and in the shape of the skull. These successions of changes, each appearing to accentuate the preceding one, are called *orthogeneses*. It is remarkable how many independent evolutionary series have shown parallel orthogeneses. The phenomenon which we are studying here is one of the clearest examples of this, extremely varied strains having shown a tendency toward gigantism and a senseless development of their horns or of their defensive armour.

affected is necessarily eliminated. But if the population finds itself during a long enough stage of its history in conditions favourable enough for it not to have to fear either famine or more powerful enemies, if the mortality of the young is low, it may show certain types of evolution which would be closed to it were the competition more severe. Sexual selection, as conceived by Darwin, is apparently the cause of some of these forms of evolution, which favour certain individuals to the detriment of others without the species necessarily benefiting from these transformations.

Among the great mammals we have just been discussing the males frequently, if not always, engage in battles at the mating season. The males that are strongest, largest or best armed naturally have better chances than their rivals of emerging victors from these tournaments and hence of leaving descendants. As physical qualities are always partly genetic in nature and consequently hereditary, there is necessarily a selection favouring the development of size and of organs of attack or defence, either in the male alone or at the same time in the male and female alike. But such an evolution is not necessarily favourable, and the selection of less spectacular qualities would more certainly assure a future for the group in which it operates. A higher resistance to weather and to disease, a marked ability to withstand hunger and thirst, and especially a high enough birth-rate, are more decisive factors in the success of a species than are strength and courage. It is only in the absence of serious competition that a race can wantonly permit itself the weighty luxury of creating more and more effective weapons for the duels of its males. It even seems that such an evolution must almost inevitably lead to a catastrophe for the group which indulges in it.

It is now known that the two phenomena characterising the sorts of orthogenesis which we have been trying to explain are not independent. The increase in size of the successive species is at once responsible for the increase of strength and for the complexity of the weapons provided for it. There is a general law of development that "sexual variants" such as these weapons, peculiar to the male or more developed in him than in his mate, grow more rapidly than their bearers and become more complex as they grow. In these conditions species which are quite large enough necessarily have weapons of a size disproportionate to their own, weapons whose form is uselessly complex. Palæontology clearly shows that in many families the most highly-evolved species, those whose appearance

heralds the extinction of the group, have passed the stage at which the organs of attack or of defence achieve their optimum development. The explanation of this fact was for a long time a mystery, and this was used by many as a decisive objection to Darwinism. Some ten years ago, however, perfected mathematical study of the laws of natural science revealed it. It has long been known that in practically every instance quantitative characteristics, such as size, depend upon the simultaneous action of a large number of genes, and that for many of these latter all races are heterozygotic. Since selection acts in favour of an increase in size, it tends to eliminate the genes which diminish the size of the animal and to increase the number of those which enlarge it. Now it may be demonstrated that if this selection goes on long enough the evolution thus orientated may no longer suddenly be stopped. Were selection to cease so that it would even, circumstances having changed, combat the tendency it had formerly favoured, the regular increase of size would still carry on for a certain time and would necessarily go beyond the optimum exactly indicated by the cessation of selection. The orthogenesis that produces gigantism and an excessive development of male weapons is thus completely explained by a certain "inertia of evolution," an inertia that one ought always to expect to find whenever the characteristic affected by selection is conditioned by a large number of genes.

We may note without dwelling on it that there is a second type of sexual selection less brutal than that which we have been studying. This was invoked by Darwin to explain the genesis of apparently useless characteristics peculiar to males. It is to seduce his voiceless female that the nightingale possesses his beautiful song and to please his dowdy mate that the pheasant has so glowing a plumage.

It is difficult to prove the validity of this explanation, but it seems to-day much more real than it was at the time it was enunciated. There is no doubt that in the higher animals, and particularly in birds, the constitution of a mating pair is not left solely to chance; it depends in some measure on the choice exercised by one or other partner. However slight may be the role of this choice, it is enough for selection to develop the characteristics on which it is based in one of the sexes, and the intensity of the preference given because of this characteristic in the other. The effect of this double selection may be an extremely rapid evolution from the point at which a mutation will have caused the characteristics subject to

choice to vary in the desired direction. As with weapons among the mammals, and for the same reason, this form of evolution may overshoot its mark and finally harm the species undergoing it.

It is not certain, or even probable, that every instance of orthogenesis may be interpreted by the mechanism just outlined, but the recent success of modern Darwinism justifies the hope that the last obstacle facing the unanimous adoption of the theory of natural selection will soon disappear.

(To be concluded.)

Aragon

The Development of a Communist Poet

By Frida Stewart

A FEW years ago the name of Louis Aragon was known to comparatively few people outside certain literary circles. To-day he is one of the best-known of living poets; his work has been reproduced in countries all over the world, and articles, booklets and essays jostle each other inside and outside France in enthusiastic or hostile comment. My excuse for adding to this is that no one has to my knowledge yet discussed the essential questions about Aragon: *how* he has developed from his early work, and *why* he has become such an outstanding and exceptional poet.

The significant thing about him is, it seems to me, the position he has adopted towards the world, the attitude which colours every line he writes; this cannot be looked at as a static thing, but must be analysed in terms of his development and growth. To understand Aragon it is not enough to see him as he is to-day; one must know where he has come from, and where he is going, realise the choice of ways which has faced him, and the road that he has taken. This raises the whole issue of the poet and society, the problems and contradictions that surround any artist working under capitalism.

The following outline of Aragon's development cannot include a treatise on the nature of poetry, but it is worth here just recalling some of the conclusions of Marxist critics on the subject: that "capitalism has no further use for culture," that "art has become a commodity" cheapened and vulgarised for the purpose of promoting and preserving bourgeois ideology, and that the poet of our time is faced with the choice of selling his soul to capitalism or of abandoning its service.

The question of choice was brilliantly analysed by Christopher Caudwell in his book, *Illusion and Reality*,[1] and applies so closely to the subject of this article that it is perhaps permissible to quote two passages at some length. He speaks of the gap between thinking and acting in society to-day.

[1] First published by Macmillan, 1937. A new edition will shortly be published by Lawrence and Wishart.

> "Social consciousness is torn from social action like flesh from bone. The ravages apparent in modern consciousness show that man can hardly endure the pangs of this dismemberment.
>
> "The consciousness which remains adhering to the pole of the ruling class contracts and stiffens because it is separated from its organic nexus. It becomes academic, reactionary and fascist, and petrifies in a living death. The bulk of artistic consciousness cannot survive this fission. A part is attracted—by all the blindness and instinct in it—to the pole of the exploited class, but the effect of this is to explode the whole field of consciousness into fragments.
>
> "This unendurable tension is shown in the chaotic and intoxicated confusion of all *sincere* modern bourgeois art, decomposing and whirling about in a flux of perplexed agony. . . ." (p. 317.)

This confusion was at its height in 1919, immediately after the "Great War," when Aragon was beginning to write. The period of capitalist prosperity with its complacency and fixed tenets was finished, and the old order, its real face revealed in all its ugliness, immorality, greed and injustice, offered nothing to the honest artist worthy of exalting. The young men who had fought in the war felt most keenly of all the horrors, the waste, the cruelty they had experienced; if man could organise such things in full consciousness, it seemed to them better to turn their backs on consciousness. (Hence one reason for the cult of the subconscious.) It was from their ranks that the leading surrealists came, among them Aragon, in a tempestuous movement of revolt—anarchist, destructive, nihilist.

The alternative path to this one of anarchy would have been one of alliance with the working-class movement, of adopting a constructive attitude involving a discipline and acceptance of realities which few were willing or ready to undertake. As Caudwell says, they hoped for a revolution, but they did not feel with the clarity of an artist the specific beauty of this new concrete living, because they were by definition cut off from the organisation which was to realise it.

Aragon flung himself, with the rest of the surrealists, into the conquest of the subconscious, the building of a dream world, to supersede the real, the hated world around.

The nature of surrealist poetry is described by a sympathiser,

René Bertelé, as the "*reflet d'un moment*" (reflection of a moment)—

> "nothing else, no more . . . a new definition of poetry appears, a poetry become the spontaneous expression of fleeting psychic conditions, rebel against any form—a flashing, a dazzling, a cry, an ecstasy, a strip torn from the chaos of the senses abandoned to their wildest adventures. These soundings, taken in the obscurest depths of the inner life, reveal a submarine flora and fauna of unsuspected riches. They also reveal a new beauty, strange . . . disturbing, convulsive." (*Panorama de la Poésie Française.* Paris, Làffont, 1942.)

After these somewhat highly-coloured generalisations, M. Bertelé describes some of the poems of Eluard, of André Breton and of Aragon as—

> "the pathetic testimony of a handful of men resolved to risk everything, to try every door, to break all chains—to the exclusive conquest of themselves, of their innermost country. . . ."

We can see from the later Aragon how all this would appeal to him, this exploring of the depths of the mind, demanding courage and audacity, and disregard of all conventions, making full use of his rich imagination and spontaneity. But the baselessness and final emptiness of surrealism could not satisfy a mind as positive in quality as his. He eventually saw the inevitable outcome, expressed by an admirer of the surrealists, Georges Hugnet:

> "From literature, and one might say from paper, poetry has slipped into the heart of life. It is no longer a state of mind, but life itself, mind itself. . . . To lead poetry to declare itself, to have led it to the end of the branch, where you say nothing exists, where *we* say everything exists, this is the result of the suppression of the artist's conscious mentality. . . ." (quoted by Bertelé.)

Surrealism, by its own admission, had to come to a dead end. Having led poetry "to the end of the branch," what next? The surrealists were in an awkward predicament: finding themselves in an impasse, some of them turned to forms of escape, as shown in the amusing, somewhat ribald account of the disillusioned intellectuals given in Roger Vailland's excellent novel, *Drôle de Jeu* (Paris, Corrêa, 1945):

". . . Drugs, Trotskyism, suicide, drink, 'racism,' have accounted for most of my friends, dead or dying. The less tormented work in film studios. . . . There is one who does caricatures in non-political periodicals. . . . 'I am an anarchist, everything disgusts me, I disgust myself,' he answers when you ask him to join up. We all had this in common, that we could not take bourgeois values seriously; we were the extreme point of one of the contradictions which the régime breeds in itself. . . . 'I sat Beauty on my knee; and I insulted her'—this was the final homage we paid to art. Macabre humour, surrealist humour. . . ."

Even the more serious of the surrealists realised that the world which they burned to change had not been, could not be, affected by their writing. Bertelé, himself a non-political *litérateur*, admits this: the only alternative was to destroy by action instead of by writing the a-poetic world and to create that world of poetry which they so desired. "This is what some of them did, by passing to political action," says Bertelé, who also notes that many of the surrealist poets emerged from their cult of the subconscious richer and more experienced.

Aragon was one of these. His surrealist period was one of copious production, and through his delving into the depths of the mind he acquired qualities of expression, of rich fantasy and free imagery which appear even in his most recent poetry. The poems written between 1919 and 1929 are difficult to read to-day, and seem curiously out of tune with our time. But they are full of freshness and lyrical beauty. Take this, with its play of words (unfortunately not translatable):

"*Les fruits à la saveur de sable*
Les oiseaux qui n'ont pas de nom
Les chevaux peints comme un pennon
Et l'Amour nu mais incassable

"*Soumis à l'unique canon*
De cet esprit changeant qui sable
Aux quinquets d'un temps haïssable
Le champagne clair du canon. . . ."

[*Fruits that taste of sand*
Birds that have no name
Horses painted like a banner
And Love naked but indestructible

Submitted to the unique test
Of the changing spirit which quaffs
By the lamps of a hateful time
The clear champagne of the cannon. . . .]

Or take *Les Chevaliers de l'Ouragan*, evoking the atmosphere of a whirlwind, hurtling the reader along like a tremendous gale. Like Picasso in the realm of painting, Aragon in this period tried out many methods, mastered the technical complexities of his art, and acquired a facility which is now the envy, the delight or the cause for insults of his critics, according to their feelings about him.

For a short period after emerging from surrealism, on the road towards clear political understanding of the world against which he had previously rebelled, Aragon wrote poems which are not of any positive political colour or conviction. Unsatisfied by the surrealist experiment, he had to find another way. He was in the position of the bourgeois artist who—and here it is impossible not to return to Caudwell—"has three possible roles in relation to the proletariat—opposition, alliance or assimilation." For Aragon the first was an impossible choice:

> "Opposition means a return to discarded categories: it is no longer possible to return to the discarded forms of yesterday; they have annihilated themselves. . . . This attempt to roll history back gives us Spenglerian, 'Aryan' and Fascist art." (*Illusion and Reality*, p. 318.)

The second alternative was also unsatisfactory; most bourgeois artists were at the time of which Caudwell writes "treading the road of alliance—and many of the surrealists have signed the same treaty. Such an alliance can only be an anarchist alliance"; these artists "do not enter the proletarian organisation, but remain outside the ranks as fellow travellers. Their attitude to existing society therefore can only be destructive—it is anarchist, nihilist and *surrealiste*." (*ibid.*, p. 319.)

Having rejected surrealism, Aragon in 1930 was not to be content with such an alliance; and he took the only alternative course, that of entering "the proletarian organisation"—the role of assimilation. Being extremely direct, honest and uncompromising by nature, with complete faith in his own decisions, Aragon once convinced took the extreme step of breaking with those of the

surrealists who were not progressive, and joined the French Communist Party.

The first poems of this period, *Persécuté Persécuteur* (1931–2), are not straightforward professions of a new-found faith; even *Les Communistes ont raison* (1932–3) shows vestiges of surrealism. But in 1933, during a visit to the Soviet Union, Aragon seems to have finally lost the cobwebs of the subconscious cult, blown away by the winds of the steppes, destroyed by the machines of which he became aware in his first real contact with the Workers' State.

The verses written in the Soviet Union under the title *Hourra l'Oural* are completely different from anything previously published. They are simple, straightforward, even crude, but full of a vitality lacking in anything written during the 1920's, as though the poet had broken with his former self in this burst of joy and enthusiasm, vividly suggested by the title. The poems are technically not so interesting as the earlier ones; they are very full of visual impressions and materialist conclusions, and obviously influenced by Mayakovsky, whom we presume Aragon discovered at this time (and whose sister-in-law he later married). They mark the collapse of the whole edifice of dreams in which he had lived so long.

They are the antithesis of his previous work; and it is not far-fetched, in a review of his whole career, to see this change as necessary and dialectic.

For six years after joining the Communist Party Aragon published no poetry at all. Verse possibly did not appear to be a powerful enough weapon for the fight against the forces he had discovered were exterminating the values he believed in. The most effective means of attack, for the urgent immediate battle, was direct political activity, and he dropped poetry temporarily, in order to throw himself into party work in the form of journalism (he founded and became editor of the Communist evening paper, *Ce Soir*), organisation of cultural progressive elements, resulting in the "Maison de la Culture," of which he became secretary, active support for the Ligue des Droits de l'Homme, and other Left-Wing bodies, grouped round the Popular Front.

Although rejecting poetry, the novel must have seemed a suitable form of attack, a means of exposing the disastrous bankruptcy of capitalism, for he embarked in 1934 on the composition of a "*roman fleuve*" more or less on the lines of Balzac's *Comédie Humaine* and Zola's *Les Rougon Macquart*, setting out to paint the

society of our time in all its degeneracy and corruption. Its general title, *Le Monde Réel*, conveys an idea of the scope of the work. Up to 1939 three volumes had appeared: *Les Cloches de Bâle*, *Les Beaux Quartiers* and *Les Voyageurs de l'Impériale*. In 1944 another volume, *Aurélien*, was published.

It is not yet possible fairly to judge what place the novels will have in Aragon's work, or to fit them into a picture of his development. They are sincere and sombre pictures; painted in great—almost too great—detail, on an immense canvas; in spite of careful construction, they seem uneven and lengthy, and, in spite of the very fine passages and dramatic moments (such as the description of a strike in Savoy in *Les Cloches de Bâle* and of a workers' demonstration after a comrade's death in *Les Beaux Quartiers*) the reader occasionally feels that Aragon has lost his way in the stretch of the jungle of capitalist high life into which he has plunged. His enormous energy and facility lead him to pour out torrents of words, uncanalised by the limits that are automatically set for a poet.

An indication as to Aragon's possibilities as a writer of prose can be found—if we may be allowed a little chronological licence—in his very latest publication, the collection of short stories, *Servitude et Grandeur des Français*. Here is all the strength of the novels, with few of their weaknesses. These sketches—they are hardly more—of incidents of the Resistance movement are brilliantly written; alternately dramatic, tragic, amusing. Every one is different, but equally condensed and swiftly moving, packed with acute observation and fine character drawing. The situation in "*Pénitent* 43," where the priest finds himself hearing the confession of an atheist of the *Maquis*, while the Germans search the aisles, is worthy of Maupassant, and so is the rescue from the hospital of the heroes in "*Le Mouton*." At the same time, Maupassant never wrote anything more moving than *Le Collaborateur*, where the reader is led up to its climax—the child's murder—and left breathless with horror and bitterness.

It is perhaps because these stories are based on subjects which are true, and very near Aragon's heart, and written at a time when he was closest to the tragedy and drama of human life—the time of the occupation of France—that they are so much more successful than the lengthy novels on uncongenial themes; or it may be that this form of prose is really nearer poetry, in its requirement of condensed vivid wording within a pattern; or it may just

be that Aragon has grown up in the seven years between these works. The short stories are the output of a mature writer, and will find a place of honour when *Le Monde Réel* is no longer read. However, to do the novels justice, whatever posterity thinks of them, they have served a useful purpose in exposing the way of life of the French ruling class in our lifetime, and incidentally in getting out of Aragon's system a good deal of autobiographical detail which could not have been disposed of in any other form.

The pause in this poetic output turned out to be, at any rate, a breathing-space during which Aragon gained experience, developed personally and gathered strength for the coming ordeal. Activity and work among the militants of the Communist Party, years of contact with real people of unswerving convictions, resulted in a very great change. The young writer who in the 1920's threw out *Je n'aime pas les gens* had learned that *les gens* were not the people. And in the Preface of *Les Yeux d'Elsa* (1943) he voiced his faith, acquired through living in the fullest sense in contact with people:

> "*Je chante l'homme . . . et mon chant ne se peut refuser d'être . . . parce qu'il est l'homme même dont la raison d'être est la vie.*"
>
> [*I sing of man . . . and my song cannot be denied existence . . . for it* is *man, whose reason for existing is life.*]

The sexual love, which he claims in *Le Libertinage* (1924) to be the only thing that counts ("*il n'y a pour moi pas une idée que l'amour n'éclipse . . .*"), is transformed and heightened to the love "*au visage resplendissant*" of which (again in the Preface to *Les Yeux d'Elsa*) he declares:

> "*Tu es ma seule famille avouée, et je vois par tes yeux le monde.*"
>
> [*You are my only acknowledged family, and I see the world through your eyes.*]

In the period 1940–1944—years of intense emotional experiences of war, invasion, occupation—poetry was the obvious and necessary means of expression for him. The bitterness of the betrayal and defeat of France, the agonising separation from his wife, the heart-rending scenes of battle and flight and chaos, could only be uttered in verse, concentrated, passionate, personal. The result was *Le Crêve-Cœur*. Here, in expressing his own feelings, Aragon was

expressing those of millions of Frenchmen. The barrier was broken down between the poet and the people. What he sang they echoed. All over France during the Nazi occupation men and women repeated the verses of Aragon, the cry they would have uttered had they had the gift.

These poems, the first for six years, show more clearly than anything else the change in Aragon; we find in them the lovely singing quality and technical mastery of the early poems, fused with the energy and vitality and purpose of the post-surrealist verses; if these last were the antithesis of the former, the *Crêve-Cœur* poems are the synthesis of both.

There is not space here to describe *Le Crêve-Cœur* in detail, nor to quote the poems at length. It must suffice to say that, to read it through, following the themes of the poet's love for Elsa, and of his love for France (stated first separately, later interwoven and fused into one) dwelling on the most beautiful verses such as

"O soleil de minuit sans sommeil solitude . . ."

[*O midnight sun solitude without sleep.*]

and

"O mois des floraisons mois des métamorphoses
Mai qui fût sans nuage et juin poignardé. . . ."

[*O month of flowerings month of metamorphoses*
May which was cloudless and June stabbed in the back . . .]

was, in 1940, heart-breaking as the name implies, and is to-day still a deep emotional experience.

The *Crêve-Cœur* poems are, however, mainly contemplative in character; they perfectly interpret the mood, the longings and sufferings of the French people in 1940. But in 1942 the mood had altered, and passive endurance of distress had turned into a spirit of revolt demanding action. The poet was required to be more than an observer. Many French artists realised that Marx's truth, "Philosophers have only interpreted the world—the point is to change it," applied to them as well as to philosophers; among them Picasso, who not long ago gave the following written statement to a reporter:

". . . An artist is a politically conscious being constantly watching the dramatic and stirring events of the world, grasping and reflecting their significance. How is it possible not to be

> interested in other men, and what egotistical indolence can drive one to detach oneself from life which other men help to make so full? The object of painting is not merely to help adorn houses . . . painting is also a weapon of war to be used in offence and defence against the enemy." (*Tricolore*, May, 1945.)

Among those who understood and acted upon this view of art in France at that time, Aragon was one of the most energetic. He set out to organise the writers' resistance groups; with Georges Sadoul, he founded the National Committee of Writers and Journalists, and several different national committees of professional men—doctors, lawyers, and so on. Living in illegality, for three years, he never ceased work against the Nazis. He is described by Nancy Cunard as

> "undefeatable by danger and fatigue, a welder of disparate elements into operative cohesion as stimulating as inspired . . . the embodiment of all that France has been again and again in time of stress and danger in the defence of human liberty. . . ." (*Our Time*, November, 1944.)

He was one of the chief moving spirits behind the publishing of clandestine literature—a task of constant danger and difficulty, as may be gathered from these lines of a *Maquis* writer, which also show how close the resistance poets were at this time to the heart of the people:

> "Publishing in the *Maquis* was like this: we had the sub-machine-gun and its cartridges right by the press, and we got to work on producing the *Franc-tireurs et Partisans Français* editions on field presses. In this manner we published some writing by Aragon, Eluard, Cassou, Vercors. These little books were sold very cheaply, and had an immense success, and all the *Maquisards* knew Aragon's *Le Musée Grevin* and Eluard's *Liberté* by heart." (*ibid.*)

Notwithstanding the ceaseless underground activity, Aragon never stopped writing. And his poems became progressively more militant, calling the French people to action. *Les Yeux d'Elsa* (1942), which follows *Le Crêve-Cœur*, contains at the start some poems of the nostalgic lyricism of the former. Some of them are obscure, full of technical devices, borrowed, as Aragon describes in the Preface, from mediæval French literature (incidentally, he claims with pride

that he is not afraid of "imitating"—of having absorbed the best of the rich heritage of French poetry). After the first few poems, however, he raises his voice to encourage the stirrings of the Resistance.

In the poem *Richard Cœur de Lion,* for instance:

"*Tous les Français ressemblent à Blondel*
Quel que soit le nom dont nous l'appellons
La liberté comme un bruissement d'ailes
Répond au chant de Richard Cœur de Lion."

[*All Frenchmen are like Blondel,*
Whatever name we call it;
Liberty like a rustling of wings
Answers the song of Richard Cœur de Lion.]

Here too he protests against poetry being segregated in an ivory tower (*Contre la poésie pure*) and in *Plus belle que les larmes* attacks the critics who would prevent him writing the truth:

"*J'empêche en respirant certaines gens de vivre*
Je trouble leur sommeil d'on ne sait quel remords
Il parait qu'en rimant je débouche les cuivres
Et que ça fait un bruit à réveiller les morts."

[*By breathing I prevent certain people from living,*
I trouble their sleep with I know not what remorse;
It seems that when I rhyme I unleash the brass
And that it makes a noise to wake the dead.]

Persuaded by Elsa, as he admits in the *Cantique à Elsa,* he determines to discard obscurities and more recondite technicalities in his poetry, so that it may become more universal:

" . . . *Tu me dis Laisse un peu l'orchestre des tonnerres*
Car par le temps qu'il fait il est de pauvres gens
Qui ne pouvant chercher dans les dictionnaires
Aimeraient des mots ordinaires
Qu'ils se puissent tout bas répéter en songeant

" . . . *Tu me dis Si tu veux que je t'aime et je t'aime*
Il faut que ce portrait que de moi tu peindras
Ait comme un ver vivant au fond du chrysanthême
Un thème caché dans son thème
Et marie à l'amour le soleil qui viendra."

[. . . *You said to me, 'Leave for a space the thundering orchestra,*
For just now there are poor folks
Who, unable to search in dictionaries,
Would like ordinary words
That they could murmur, musing, to themselves.'

. . . *You said, 'If you want me to love you, and I love you,*
This portrait that you paint of me must have,
Like the living worm at the heart of the chrysanthemum
A theme hidden in its theme,
And must marry the sun which will come, to love.']

From now on he adopts a language which will appeal to the widest possible public, reach the people of France in every corner ordinarily remote from poetry: words must become weapons, to attack the enemy, instruments to sing praises of the heroes, tools to build memorials to the martyrs:

"*Trouver des mots à l'échelle du vent*
Trouver des mots qui pratiquent des brêches
Dans le sommeil comme un soleil levant
Des mots qui soient à nos soifs une eau frâiche."

[*To find words on the scale of the wind,*
To find words which force breaches
In sleep, like the rising sun,
Words which may be fresh water for our thirst.]

Aragon has good precedents for this use of poetry: Victor Hugo, Whitman, Mayakovsky are examples of writers devoting their gifts to a revolutionary cause. In France from 1942 to 1944 a whole host of poets followed the same course, and in the illegal press poetry had a place of honour, and was read and echoed by hundreds of thousands of ordinary people—an unusual thing in capitalist society. Aragon, speaking in London in 1945, paid tribute to the resistance poets: "They all wrote and were all popular; I was one among many." Nevertheless, he was the most outstanding, the most prolific, and the first; this is acknowledged by the distinguished writer, François Mauriac—a Catholic, and formerly no political friend of Communists—at a "gala of the liberation" in Paris in 1945:

"Suddenly a poet rose above the false sleepers; he sang the Prelude to the *Diane Française*. His love of his country . . .

delivered itself in a sudden outburst, spurted up in poetry popular in the most noble sense of the word, a poetry of the soil of the nation, and of which since Victor Hugo we in France had lost the secret. Through and beyond the hymns of the French Revolution, these verses retrieve the rhythm and accent of our most ancient poets. Poems of love, but of a furious love; for the fury of Rimbaud rumbles right through the poetry of Aragon. Hence this rhythm, urgent, breathless, which obliged the conquered to lift their humiliated heads, which almost forced weapons into their hands, which reveals in every one of them a sleeping hero."

The poems of *La Diane Française* like *Le Musée Grevin* and *Broceliande*, were published mostly in the underground press under the name François Lacolère—an appropriate pseudonym which can hardly have disguised Aragon very effectively. The name "Diane" (which means *reveillée*) in itself states what the collection sets out to be: a call to action, open and resonant—no question of the "theme within the theme" being hidden in this case. They are with a few exceptions absolutely direct and unambiguous. Some take the form of popular ballads, based on history; such is the very moving "*Ballade de celui qui chanta dans les supplices*," a description of Gabriel Péri's execution; another is *La Rose et le Réséda* dedicated to Péri and to d'Estienne d'Orves, on the subject of the reconciliation of an atheist and a believer both dying for France. (Here is an example of Aragon's political consciousness applied to poetry; he actively performs his Party's task in trying to cement the unity between Catholics and Communists in this poem, and in others where he uses metaphors from the New Testament, compares crucified France with Christ, and all mankind with the Son of Man.)

Some are straightforward marching songs, like those summarily dismissed by Philip Toynbee:

". . . I rate them low in literary importance because their spirit was primarily combative." (*Horizon*, November, 1944.)

Despite this appalling weakness, the less fastidious reader will find these songs are moving and exciting—one can imagine the dynamic effect they must have produced on the men and women working for the liberation of France: the same effect that Hugo

produced with his poems to the partisans of 1871. Compare Hugo's

"O Franc-tireurs soyez terribles:
Glissez, tirez, rampez dans les ravines . . ."

[*O franc-tireurs, be terrible*
Creep, shoot, climb in the ravines . . .]

with Aragon's

"Entendez Franc-tireurs de France
L'appel de nos fils enfermés
Formez vos bataillons formez
Le carré de la délivrance
O notre insaisissable armée . . ."

[*Franc-tireurs of France, hear*
The call of our imprisoned sons,
Form your battalions, form
The square of liberation;
O our unseizable army . . .]

Other poems in *La Diane Française* commemorate actual events, such as the Nazi outrages on Strasbourg University, the ejection of 40,000 Marseillais from their homes, and finally the liberation of Paris. The latter evokes in the poem *Paris* all Aragon's passion for France and her capital:

"Rien n'a l'éclat de Paris dans la poudre
Rien n'est si pur que son front d'insurgé
Rien n'est si fort ni le feu ni la foudre
Que mon Paris défiant les dangers
Rien n'est so beau que ce Paris que j'ai.

"Rien ne m'a fait jamais battre le cœur
Rien ne m'a fait ainsi rire et pleurer
Comme ce cri de mon peuple vainqueur
Rien n'est si grand qu'un linceul déchiré
Paris Paris soi-même libéré."

[*Nothing's like Paris exploding in battle*
Nothing so pure as its insurgent's mien,
Nothing so strong, neither fire nor metal,
As Paris's defiance of dangers unseen,
Nothing's so grand as this Paris of mine.

"Nothing has ever yet made my heart beat,
Nor set me weeping and laughing aloud
Like this cry of my people conquering proud
Nothing's so fine as the torn winding-sheet,
Paris, my Paris, by her own hands freed.]

The last poem in the book is Aragon's confession of faith: *The poet to his party.* "My party has given me back my memory and my sight," he says, and in the last five lines he explains the foundation on which all his poetry is now built: his vision of France, his view of life, "anger and love and joy and suffering," have been turned to songs inspired by the teaching of his party.

It is with poems such as this that Aragon's critics quarrel; although they acclaimed *Le Crêve Cœur*, they cannot tolerate these: the working-class movement is not, in their eyes, a suitable subject for poetry; a political party is not the kind of thing you consider sublime if you live in Bloomsbury or in the *cafés* of Montparnasse or Boulevard St. Germain. On the basis of theory, these critics have a strong hand—it is unorthodox, unusual, to bring party politics into serious art. The real truth, however, is that most of these intellectuals do not want to, or do not dare. They profess plenty of sympathy with progressive movements, but when it becomes a question of directly using their art to advance the cause of the working class, of sacrificing one grain of individual, bourgeois freedom for the freedom of the masses, they remain aloof and condemn those poets who do not share their attitude.

Those who attack or depreciate Aragon for his political pronouncements and activity to-day are those who in 1937 were described by Caudwell as making an anarchic alliance with the proletariat. He mentioned the "Trotsky-like element in their orientation" and a "slightly anxious preoccupation with personal liberties, and a scurrying hither and thither for reassurances or corrections in the proletarian revolutionary theory because of its suspicious deviations from petty-bourgeois limitations and ideals." (*Illusion and Reality.*)

Since those days, when the leading writers in this country and France took an anti-Fascist line at least in writing on Spain, many have retreated even from the precarious alliance mentioned in *Illusion and Reality.* Some, such as Auden, have withdrawn from any political expression at all; others, like Arthur Koestler, have

become, while claiming to be progressive, anti-Communist and bitterly anti-Soviet. (They incidentally never fail to evoke loud applause from the literary critics of the reactionary press.) There is a danger of their being accepted at their own evaluation as champions of progress and advance; whereas they are elements who play into the hands of bourgeois reaction by deflecting interest from the real focus of progress: the organised working-class movement. Such artists and intellectuals who claim to be leaders of culture in this country, and their opposite numbers in France, are tending to turn to new forms of philosophy (for example "existentialism") and to rally round such men as Henri Michaud (a writer of pure nonsense) and Jean Paul Sartre, author of morbid novels about perverts and neurotics. These are their roads of escape from reality, their choice in the fatal decision that all artists have to make. They lead, as surrealism did, to "the end of the branch." And we have seen where Aragon's road has led: to the country where the artist finds himself fully in touch with reality, with life in all its richness and its variety, where freedom is won through the recognition of necessity. This is what Picasso meant, when, choosing the road of "assimilation," he joined the Communist Party, with the words "*J'ai trouvé ma vraie patrie.*"

The artist who goes the way of reaction will find himself further and further removed from life, as Socialism inevitably approaches through proletarian action. The one who goes forward with the progressive forces can never lose touch with reality, and his work will become more and more infused with purpose and vital content. Aragon, if he stays in the ranks of the working-class movement (as we hope and believe he will), will continue "to sing for humanity" (a truth expressed in a play of words by *L'Humanité* when publishing his poem *Paris*). He will continue to fulfil his mission—to quote George Thomson in *Marxism and Poetry*—"surmounting the barrier between the poet and the people, and restoring the broken harmony between poetry and life."

Wandering into the Abstract

By Fernau Hall

THE next few years will demand great efforts on the production front. Shortages of all kinds must be made good, and exports must be favoured at the expense of home consumption. But there is no reason why these should be years of cultural poverty. In fact, the reverse is true.

In this situation we can profit from the experience of the Soviet Union during the harsh years of N.E.P. and the first two Five-Year Plans. Immense sacrifices were made for the sake of the future, but during those years Soviet citizens had the benefit of the finest theatre in the world, magnificent films, millions of admirable books, concerts by the thousand, and so on. Prices of all cultural facilities were kept low, even if this meant appreciable losses, and commercial considerations were never allowed to influence the quality of the product. The result was that for the great mass of the population life was hard, but it was never dull.

There is no doubt that in this country the provision of cultural facilities will continue to expand: the touring units associated with the Arts Council are quite inadequate to meet the growing demand, and the plans for arts centres and community centres show a clear understanding of this need. The brick-and-mortar side of the problem is under way; but the question of quality requires equal attention and forethought.

This is particularly true of ballet—the one art in which we could claim to lead the world before the war. As Edward Dent points out, the British Council was right in sending the Sadlers Wells Ballet to the Paris Exhibition in 1937: "the ballet really was the best representative art production we could at that time offer to the inspection of the world."[1]

Since 1937 material progress in ballet has been impressive. The efforts of the wartime touring companies have built up an audience for ballet in every town of any size, not to mention dozens of factory hostels and Army camps; and the packed houses show that ballet is rapidly acquiring the same favoured position as opera in Italy. Three of the leading companies (the two Sadlers Wells companies and the Ballets Jooss) work in association with the Arts Council, and the fourth (the Ballet Rambert) is directly

[1] *A Theatre for Everybody*, p. 117.

managed by the Council. The occupation of Covent Garden—traditional home of exotic theatrical luxuries—by an English company is symbolic of the new period now beginning.

Unfortunately, artistic progress since 1937 has been very small in comparison with the material expansion: relatively few new ballets have been produced, and with one or two exceptions (e.g. *Peter and the Wolf* and *Lady into Fox*) they cannot compare with the best ballets of the golden age (1930–7). With the exception of Robert Helpmann, no new choreographer has come to the fore for many years, and our greatest choreographer (Antony Tudor) has been forced to go to America to win the recognition and support due to his ability. In 1937 the production of a ballet like *Dark Elegies* or *Checkmate* was an artistic event comparable to the 1945 production of *Peter Grimes*; to-day a new ballet can be guaranteed to proceed on certain familiar lines, and is soon taken for granted. The choreographers have lost none of their technical skill; but their attitude to content has changed considerably.

The growth of the new attitude to content can be traced very clearly in the rapidly increasing prejudice in favour of abstract and near-abstract ballets. Of Ashton's last four ballets, three are largely or completely abstract (*Dante Sonata*, *The Wanderer*, and *Symphonic Variations*). Nearly all Walter Gore's ballets are abstract (though some have a thin framework of story); his latest ballet (*Simple Symphony*) is entirely abstract. Of Frank Staff's last three ballets, one is quite abstract (*Enigma Variations*), one is a suite of dances, most of which are abstract (*Czerny*), and one has only a tenuous wisp of story (*Un Songe*). Andrée Howard's latest ballet (*Assembly Ball*) is a suite of formal *divertissements* set in a conventional frame. Robert Helpmann alone has swum against the tide: his best works are highly dramatic. Unfortunately, Helpmann is unable to create expressive dance images, and makes use of methods more appropriate to the "legitimate" stage; the interpolated passages of dancing strike a note of incongruity (as Beaumont points out),[1] and can often be described as abstract. In his latest ballet, *Adam Zero*, Helpmann attempts to cover up the absence of expressive dance movements by using the stage machinery in a spectacular manner, and is clearly moving in the same direction as the abstractionists.

These abstract and near-abstract ballets vary widely in quality. Those of Frederick Ashton are technical masterpieces, with a

[1] C. W. Beaumont, *Sadlers Wells Ballet*, p. 201.

subtle balance of fast and slow tempo, a pleasing variety of mass dances and dances for varying numbers of soloists, and evidence of a sure instinct for making the most out of every movement; those of Walter Gore, on the other hand, are laboured and monotonous, in spite of the furious exertions required of the dancers. But all these ballets have a remarkable family likeness: whether or not they are credited by the programme with a theme, their movement and grouping resemble each other to such an extent that the dancers must wonder at times which ballet they are performing. In some cases the resemblances extend to non-abstract ballets as well: *Simple Symphony* contains a dance by a male soloist which is almost the same as one in *Dark Elegies.* Certain episodes have acquired almost official status in the abstract ballets: one can be certain, for example, that a young man will be carried across the stage shoulder-high by a group of other young men. When programme notes are provided, these show even more of a family likeness. There are no characters in the normal sense of the word; instead, the dancers represent abstractions, like "Man," "The External World," "Love," etc. Usually there is no mention of time or place: in *The Wanderer* we are specifically told that the male soloist represents "a mental and emotional traveller who belongs to all time." There is little or no dramatic structure; whatever the programme may say, the episodes follow each other with no particular relevance, except in so far as they are adapted to the form of the music (which is usually a symphony or concerto). Most of the time the choreographer is content to improvise movements as a kind of free interpretation of the music; under these circumstances, composition is so easy that (according to Beryl de Zoete) Ashton completed *The Wanderer* in a fortnight, in spite of its immense complexity of texture. So long as the supply of symphonies, concertos, and sonatas holds out, choreographers can arrange abstract ballets as often as required.

At times the choreographers appear to have doubts whether their ballets are suffused with quite as much universal significance as they ought to be; and then they make use of a striking dramatic grouping or gesture. Ashton has a predeliction for sexual images, which are repeated from ballet to ballet without much alteration; in *Dante Sonata* they are very numerous, though (as Beaumont says) they are "quite inapposite to the theme."[1] In most cases,

[1] *Supplement to Complete Book of Ballets*, p. 116.

however, the symbolism is left so vague that the spectator can attach to the episodes any meaning he likes: on several occasions during *The Wanderer* the dancers form up into a line, cross their forearms at right angles, and rapidly rotate them through an arc of 90 degrees.

Massine was the first to arrange abstract ballets in the present century. His first symphonic ballet, *Les Présages*, caused a sensation in 1933, and since then nearly all his serious ballets have been in this style. The first three symphonic ballets (*Les Présages*, *Choreartium* and *La Symphonie Fantastique*) were not entirely abstract; they included long episodes which had all the qualities of good drama—conflict, tension, atmosphere, characterisation, etc. (A good example is "The March to the Scaffold" in *La Symphonie Fantastique*; here the movements and costumes are clearly inspired by the drawings of Daumier and Forain, and represent a bitter satire of the machinery of justice in nineteenth-century France.) Passages of this nature represent an important step forward in the evolution of a dramatic form as peculiar to ballet as the formal discoveries of Griffiths (close-ups, panning and tracking shots, cross-cutting, etc.) were to the art of film. At their best the early symphonic ballets had the precision of imagery and economy of means characteristic of all good drama. In the later symphonic ballets, however, Massine lost interest in drama, and concentrated all attention on the provision of elaborate spectacle.

Since the beginning of the war Massine has worked in America, and has had considerable influence on other choreographers working there. But the most powerful influence on the young American choreographers is Balanchine, who for years has been in effect the artistic director of the most important of the "Russian" companies, the Ballets Russes de Monte Carlo. His ballets form the main bulk of the repertoire of this company, and are all abstract. Balanchine's theories, as taught at the School of American Ballet, represent the point of view of most abstract choreographers, both here and in America:

> "The important thing in ballet is the movement itself, as it is sound which is important in a symphony. A ballet may contain a story, but the visual spectacle, not the story, is the essential element. . . . As in music, the audience should be able to enjoy the movement, regardless of the story. . . . Choreographic

movement is an end in itself, and its only purpose is to create the impression of intensity and beauty!"[1]

Though most of the new ballets produced in America are now abstract, the theories of Balanchine and his followers do not go unchallenged. John Martin, the famous dance critic of the *New York Times*, has a fine record of championing the solid achievements of the American "modern dance" school, and has a clear understanding of the importance of content in dancing. Igor Youskevitch criticises Balanchine from the point of view of the dancer:

> "In ballet, dance technique is a means of expression, as singing in opera and speech in drama. Why, then, should it be necessary to deprive ballet of thought and transform it into a purely gymnastic performance? . . . Ballet movements must as clearly as possible express the character, thoughts, feelings of the people on the stage. . . . It is a very sad prospect for a dancer to be just a puppet which executes a chain of, perhaps beautiful, but still purely gymnastic movements without having a deep inner interest in them."[2]

Before the war, Serge Lifar, *maître de ballet* at the Paris Opera, put forward a demand for "a choreographic theatre, free and independent" which had much in common with the theories of Balanchine. Though not abstract, Lifar's ballets—almost all based on classical stories—were just as hermetically sealed off from the passions and conflicts of real life as the most formal concerto interpretation. Lifar collaborated during the German occupation, and will arrange no more classical ballets glorifying Serge Lifar at the Paris Opera.

Lifar's theories were subjected to criticism by Ninette de Valois, Director of the Sadlers Wells Ballet:

> "It [Lifar's *Manifesto of a Choreographer*] basically proves lack of true theatrical education, and complete confusion as to the meaning of the synthesis of the arts, which is the main demand of a theatre production. . . . That is a state of mind

[1] *Dance News* (New York), May, 1945. For "movement" read "form" and for "story" read "content," and this becomes the art for art's sake theory in all its purity—even to the suggestion (characteristic of Pater, Roger Fry *et al.*) that the arts should all approach to the condition of music.

[2] *Dance News*, June–August, 1945.

arising from a confusion between the function of the medium and the exploitation of his own ego. It seems that the true 'choreographic theatre' is the classroom, quite complete in itself as far as this art is capable of being self-sufficient.

"In a sense, the fundamental business of the theatre is to portray a state of make-believe. It is mainly a fantastic representation of the realities of life through dramatic rendering. The major channels most commonly used are the play, the opera and the ballet. . . . The modern cry for a purely abstract rendering of the ballet divorced from a literary source will continue to appear inconsistent. Its sponsors do not hesitate to demand the theatre and all its resources for the fulfilment of their particular aim, but ignore the views, obligations and aims of the theatre."[1]

This was published in 1937, and probably written in 1936, i.e. immediately after Ninette de Valois composed her masterpiece, *The Rake's Progress.* This ballet is a fine example of dance drama, and retains all the bitter social satire of the paintings by Hogarth on which it is based: nothing could illustrate more clearly the richness and vitality of social realism, in violent contrast with the pretentious nonsense produced by those who wish to reduce choreography to the level of the daily classroom improvisations of the ballet mistress. In the first scene of *Rake,* the movements are relatively inexpressive (consisting alternately of conventional classroom steps and mime), but as the dramatic tension rises the choreographer makes use of poetic dance images which have the clarity and precision demanded by Youskevitch.

Since 1937 Miss de Valois has steadily drifted away from the sturdy realism of *The Rake's Progress* and *Invitation to the Ballet.* Her latest ballet, *Promenade,* is no more than a suite of conventional *divertissements,* followed for no apparent reason by Breton folk dances; and the current repertoire of her two companies bears little relation to her previous emphasis on "the realities of life."

The present controversy is not new; it has been repeated (with variations) at every critical period in the history of ballet. Ballet in the modern sense of the word can be said to date from the publication of Noverre's *Letters on Dancing and Ballets* in 1760. In Noverre's day ballet was no more than a spectacular entertainment,

[1] *Invitation to the Ballet,* pp. 175–6.

inserted at intervals into the operas. For centuries luxurious entertainments uniting singing, dancing, acrobatics, mechanical effects, etc., had been presented at the French Court, where the nobles literally danced attendance on the king; and the translation to a State theatre (with the change to a professional basis) made no important difference to the quality of the performances. But towards the middle of the eighteenth century the great materialist philosophers began to attack the whole basis of the French absolute monarchy; all obsolete feudal ideas were brought before the "Tribunal of Reason," and Rousseau raised the cry, "Back to Nature!" Noverre, a friend of the Encyclopædists, and the first great *maître de ballet,* applied the philosophic ideas of the time to the art of ballet—one of the most characteristic expressions of the feudal State. Noverre had no patience with the abstract formalism of the ballets of his time:

> "The name ballet has been wrongly applied to such sumptuous entertainments, which combine magnificent scenery, wonderful machinery, rich and pompous costumes . . . brilliant artificial illumination, pleasing dances and *divertissements,* thrilling and perilous feats of strength. . . . Even in all this I find nothing of what I seek to find in a ballet."[1]

Noverre saw clearly that ballet could only become a serious art by resuming its historical position as a branch of the drama:

> "The art has remained in its infancy only because its effects have been limited, like those of fireworks, designed simply to gratify the eyes. No one suspected its power to speak to the heart. . . .
>
> "I have dared to fathom the art of devising ballet with action; to reunite action with dancing; to accord it some expression and purpose."

Using the language of the materialist philosophers, Noverre demanded a return to Nature and a respect for reason:

> "There are few logical ballets; dancing is introduced for the sake of dancing; and it would seem that everything consisted in the movement of the legs."

[1] All quotations from Noverre are taken from C. W. Beaumont's translation of *Letters on Dancing and Ballets.*

Instead of copying the ballets of others, *maîtres de ballet*[1] must study life around them in all its aspects:

> "A *maître de ballet* ought to explore everything, to examine all. . . . How many varied pictures will he not find among workmen! Each of them has different attitudes relative to the position and movements exacted by his work. . . . Again, what quaint and curious pictures will not be found in the crowd of pleasing idlers, and those second-rate fops!"

Characterisation is just as important for choreographers and dancers as it is for dramatists and actors:

> "A *maître de ballet* should endeavour to accord to each of his dancers a different action, expression and character. . . . Dancers, like actors, should devote themselves to depict and feel; they have the same object to attain. . . . That realism, that enthusiasm[2] which distinguishes the great actor and which is the life blood of the fine arts . . . is like an electric spark. . . . It is a fire which spreads rapidly and captivates the imagination of the spectator."

By "realism" Noverre did not mean naturalism. He saw that dancing is capable of expressing with precision subtleties of emotional experience beyond the reach of words. ("In regard to the passions there is a degree of expression to which words cannot attain, or rather there are passions for which no words exist.") And his contempt for the conventional gestures of the Commedia dell' Arte—still the refuge of incompetent choreographers—was unbounded. ("Students of dancing should not confuse the noble art of pantomime with that low and trivial form of expression which Italian players have introduced into France.")

Noverre's ideas were much too revolutionary for the French court, and when he applied for the post of *maître de ballet* at the Opéra in 1758, his application was turned down, in spite of his genius. As a result, almost the whole of Noverre's ballets were created outside Paris—in Lyons, Stuttgart, Vienna, Milan and London. Partly through these productions, and partly through the publication of his famous *Letters on Dancing and Ballets*, his ideas

[1] The artist who designed the movements was not known as "choreographer" until fairly recently.

[2] In the seventeenth century the word "enthusiasm" still retained much of its original meaning, "possessed by a god."

gradually won acceptance throughout Europe (though they had little influence in France until after the Revolution), and ballet became a serious branch of the drama, as he hoped it would. The greatest ballets of *maîtres de ballet* like Vigano (1769–1821) and Perrot (1810–92) were true dance-dramas,[1] in which a powerful and varied content found expression in dance images comparable to the word images of the great poet-dramatists. Productions like *Otello* by Vigano (1818) and *Faust* by Perrot (1848) demanded and received the same serious consideration as great plays and operas.

Unfortunately, the ideas of Noverre never won more than transitory victories in *practice*, though most *maîtres de ballet* found it advisable to pay lip-service to them. The situation in the ballet world was very similar to that in the film world of to-day, where the excellence of a small number of honest, sincere films is obscured by the overwhelming proportion of screen time occupied by slick sentimental productions.

Perrot reached maturity as a creative artist precisely at the time when the production of *La Sylphide* (with Taglioni in the leading role—1832) had inspired a flood of *ballets blancs* in the same style—each with its white-clad supernatural beings drifting about on points and executing the same conventional *enchaînements* of classroom steps. In these ballets the content was of no importance; everything was subordinated to the personality of the ballerina (who insisted on being given the steps she did best). Perrot's first important ballet, *Giselle* (1841), shows the influence of this tradition, though enough remains of the original choreography to suggest the expressive vitality of his later ballets.

The chief theoretician of the *ballet blanc* was Théophile Gautier, one of the first writers to put forward the idea of art for art's sake. His definition of dancing might well serve as a motto for the abstractionists of to-day:

> "Dancing consists of nothing more than the art of displaying beautiful shapes in graceful positions and to develop from them lines agreeable to the eye; it is mute rhythm, music that is seen."[2]

The more conventional and artificial the ballet, the more Gautier liked it; he considered the intrusion of real content as fatal:

> "The more the action is fabulous, the more the characters are fictitious, the less shock to verisimilitude. . . . We are quite

[1] Vigano called his works *coreodrammi*.
[2] Quoted in *A Miscellany for Dancers*, compiled by C. W. Beaumont.

happy to watch a pretty dancer leap about in the midst of an absurd story. If the foot is small, well arched and curved down to the toe like an arrow, if the leg is dazzling and pure, we worry very little about the rest."[1]

Though Perrot arranged *Giselle* to a script by Gautier, he differed profoundly from Gautier in his ideas about suitable themes for ballet. After *Giselle*, Perrot quarrelled with the Director of the Paris Opera (who wanted Perrot to use the same trivial themes as his predecessors) and moved to London, where he took advantage of the fashionable craze for ballet to create a number of great works (*La Esmeralda*, *Catarina*, *Faust* and others). Seats at Her Majesty's were expensive, and ballet was very much an exotic luxury for the rich. The fashionable audience troubled themselves little about the *content* of the ballets they went to see; so long as stars like Taglioni or Cerrito danced the principal roles, they were content. They were enthusiastic about the dance-dramas of Perrot, but they were no less delighted with the insipid *ballets blancs* of Paul Taglioni. What they particularly craved was novelty; and even Perrot had to waste time on empty suites of *divertissements* like *Le Pas de Quatre*, designed to bring together all the stars of the day. The craze for ballet in England began to subside after a few years, and Perrot left for Russia in 1848.

Social conditions in Europe after the abortive risings of 1848 were favourable to the ideas of Gautier, and those of Noverre were forgotten. Ballet lost almost all connection with drama and became once more a luxurious entertainment appealing to the wealthy patrons of the theatre. The materialism and humanitarian idealism favoured by the revolutionary bourgeoisie in the eighteenth century was now antipathetic to their solidly established successors, particularly after the Commune. In Russia Perrot was made welcome for a few years, and produced all the great ballets he had composed in London; but the infiltration of progressive ideas from the West made the Court deeply suspicious of his social realism,[2] and the censor enforced a number of humiliating alterations. After ten years Perrot resigned, and for the next fifty years

[1] Quoted by Julie Sazonova in *Le Vie de la Danse* (Paris).

[2] "In Catarina, the hard life of the hunted bandit is contrasted with that of the aristocracy living in luxurious palaces in Rome. Sometimes, too, the aristocrat is satirised by presenting him as a helpless being when removed from his normal surroundings." (C. W. Beaumont, *The Ballet called Giselle*, p. 38.)

the machine-made ballets of Petipa (full of marches and countermarches, processions, conventional "variations," *divertissements*, etc.) filled the Imperial theatres, where the dancers made a deep bow to the Imperial box on their first entrance.

At the beginning of the twentieth century conditions in Russia were similar to those in eighteenth-century France. Large cracks had developed in the Imperial State, and the younger artists felt dissatisfied with the old-fashioned Imperial theatres, where productions still retained their character of court entertainments and failed to express the mood of the rising bourgeois class. This general feeling of dissatisfaction found expression in the realism of the Moscow Art Theatre and the barbaric glamour of the operas and ballets presented by Diaghilev in various European capitals during the summer holidays of the Imperial theatres. (The directors of the theatres resisted the new style of ballet, and few of the great Russian ballets produced by Diaghilev were ever shown in Russia; eventually Diaghilev had to form a permanent touring company.)

The new ballets with choreography by Fokine, music by Stravinsky and décor by Benois and Bakst represented a return to the ideas of Noverre at a new level of fantasy. In some (e.g. *Schéherazade* and *Thamar*) the choreography was undistinguished, and the ballet relied for effect mainly on the violent colours of the décor; but the best of them (particularly *Petrouchka*) had as realistic a content and as expressive dance images as the masterpieces of Perrot and Vigano; and the early ballets of Massine (*The Good-humoured Ladies*, *The Three-cornered Hat* and *La Boutique Fantasque*) showed the same tradition applied to different periods and foreign countries. All these ballets reflect the bitter social conflicts of the period (1909–19). In *Petrouchka*, the attempts by the puppet to become a man are clearly symbolic of the desire of the Russian people for a better life, and in *The Three-cornered Hat* the inhabitants of the village unite to defeat the hated Corregidor.

After the 1914–18 War the Diaghilev Company lost all connection with Russia, and moved in a cosmopolitan vacuum of hotels and opera houses. The ballets became more and more self-consciously sophisticated and fashionable, appealing to the general craze for novelty at all costs. After Diaghilev died in 1929, there was a gap of several years, and then various "Russian" companies were formed to carry on the tradition. During the war they

have been forced to remain in America—where Massine and Balanchine have continued to arrange the abstract ballets which are the logical successors of the ultra-sophisticated Diaghilev ballets: in both, content is of no importance, and all that matters is visual spectacle.

Fortunately, the best English choreographers found inspiration in the *early* Diaghilev ballets, with their strong roots in real life; and within an astonishingly short space of time they were producing such Noverrian masterpieces as *The Rake's Progress* and *Dark Elegies*. This was not the only trend; there was a contradictory tendency towards an imitation of the fashionable late-Diaghilev ballets (particularly in the works of Frederick Ashton and Andrée Howard); but until 1939 the doctrines of the abstractionists made little progress in face of the strong new English tradition of fantastic realism.

The abstract ballets of to-day can best be understood as a development out of the spectacular ballets of the late nineteenth century, as performed at such theatres as the Maryinsky (St. Petersburg), the Bolshoy (Moscow), the Scala (Milan) or the Alhambra (Leicester Square). The connection between the two can be clearly seen in the ballets of Luigi Manzotti (the Petipa of Italy); the scenarii of his ballets might well refer to a symphonic ballet of to-day:

> "The Elements are seen struggling with each other. Gradually they are dominated by a new force—Love. . . . Enter Man, the Lord of Creation, who gazes in mingled astonishment and fear upon the illimitable marvels of Nature."

In *Amor* (from whose scenario the above is extracted) the choreographer used horses and elephants to add to the spectacular effect. In *The Wanderer* the choreographer used layers of varicoloured lights, so that the dancers changed colour as they moved up or down stage. The principle is the same in both cases, though Ashton's methods are far more sophisticated than Manzotti's.

The theories attempting to justify purely abstract ballet will hardly stand a moment's examination. When choreographers try to reduce dancers to robots, mere geometric elements in a formal pattern, they are bound to fail. All movements of the body have emotional and ideological implications: inward movements, for example, suggest gathering in, acceptance, etc., and movements with the head thrown back suggest abandonment to emotions.

Wandering into the Abstract

When there are two dancers on the stage, their relative movements are full of dramatic implications, as every producer knows. As the number of dancers increase, the dramatic tensions become correspondingly complex. If the choreographer ignores these implications, the kinæsthetic images in the minds of the spectators contradict each other, instead of building up into a single dramatic picture, and he feels unsatisfied.

Things are not much better in near-abstract ballets with a vague generalised content. As Lenin said, "the particular exists only in that connection which leads to the general. The general exists only in the particular and through the particular."[1] Those dancers assigned the task of representing Man with a big M are faced with the impossible. They cannot achieve the living passionate relation with their audience which is characteristic of all good art unless they are given *particular* emotions, *particular* moods, *particular* traits of character to portray.

Much the same is true of conflicts. In the near-abstract ballet there is no conflict of opposites, but only a kind of pretentious shadow boxing. (In *Dante Sonata* the Spirits of Light have no independent dynamic role—they exist only to be bowled over by the Spirits of Darkness whenever the latter appear.)

A ballet may have all the dramatic virtues of precise imagery, powerful content, etc., without necessarily being based on an elaborate plot, as were the great dance-dramas of the past. *Dark Elegies,* for example, has a structure somewhat similar to that of a Greek tragedy: the decisive event which determines the actions of the characters (in this case the death of the children) has taken place before the curtain rises, and we see only the final emotional climax. The conflicts are internal rather than external: the various parents struggle partly as individuals and partly as a group against the despair which threatens to overwhelm them, and finally win through to a mood of resignation. In this ballet universal significance is obtained in the same way as in any other great drama—through the author's profound and sympathetic understanding of the particular experiences of his characters.

The origins of the drama are to be found in a ritual dance, and in the classic drama of Eastern countries the link between dance and drama is still preserved: the words for dancer and actor are often the same, and the dancing is just as vital to the action as the dialogue. In the Kathakali dance-drama of Malabar the words

[1] *Notes on Dialectics* (Klingender's translation).

of the Hindu epics are chanted in Sanskrit—a dead language incomprehensible to the audience—and, in Bali, Old Javanese is used in the same way. The traditional dance-dramas are transmitted from generation to generation with very little change, and the dance preserves all its expressive vitality. Things are very different in Europe, where ballets suffer considerable changes from year to year, and are altered almost beyond recognition in a generation. In a bad period the great works of the past are either lost or severely mangled, and offer little inspiration to rising young choreographers. For this reason the pace of change is very rapid: periods of decadence succeed those of creative achievement after remarkably short periods of transition, and tend to last very much longer. As we have seen, the ballets produced during the long periods of decadence are lavish spectacles designed merely "to gratify the eyes," and cannot in any true sense be described as dance-dramas. In England the signs of decay appeared as early as 1938, but the decline was accelerated by the War, which crushed out of existence a number of adventurous dance groups, and brought into existence a vast new audience unfamiliar with the great ballets of the immediate past. To-day the ballet stage is dominated by Petipa-style ballets and the abstract ballets which are their twentieth-century equivalent. But there is some ground for the belief that this period will not last fifty years, as it did in Russia.

Some light on possible future developments in this country is afforded by the history of ballet in Russia in the last three decades. As already mentioned, Diaghilev found it impossible to present any of his major works in Tsarist Russia, and after 1914 the Diaghilev Company never returned to Russia. The result was that Soviet choreographers were ignorant of the great achievements of Fokine and Massine, and when they tried to break away from the Petipa tradition they succeeded only in creating a new *avante-garde* formalism. During the period of experimentation every style was tried out, from acrobatics to Central European, and décors were as Cubist and constructivist as anything to be seen in Paris.

These formalistic experiments failed to satisfy the public, and the subsequent reaction was as violent as the first one: a number of the spectacular Petipa ballets were revived, and for many years all new ballets were in the same style. The action was carried forward in scenes of conventional mime; the dances were

conventional *enchaînements* of classroom steps, and were in fact quite abstract.

Gradually, however, choreographers began to move back to the Noverre tradition; and this tendency found expression in three different ways.

First there was a new attitude to content. Instead of sentimental and artificial stories, like that of *The Red Poppy* (1927), librettists devised dramatic and historically accurate plots: a good example is *The Flames of Paris* (1932), which portrays some of the most dramatic episodes of the French Revolution, and makes good use of *La Carmagnole* (dance-song of the masses). Another example is *Christmas Eve* (1938), based on the famous story by Gogol.

A second influence was that of folk dances. A considerable number of ballets made use of the varied and expressive folk dances of the non-Russian peoples of the Soviet Union: *The Fountains of Bakhchisarai* (1934) and *The Prisoner in the Caucasus* (1938) were based on poems by Pushkin. Chaboukiani (a Georgian) became particularly expert at combining folk dancing with the classical technique. ("In such an approach, classical ballet and the people's choreographic art mutually enrich one another."[1]) In certain of the autonomous republics (e.g. Armenia) ballets were produced in the pure traditional style of the region.

A third influence was the study by critics and choreographers of the work of the great *maîtres de ballet* of the past. The writings and ballets of Noverre were studied in detail.[2] The late Yuri Slonimsky made a penetrating analysis of the contributions to choreography of men like Didelot, Perrot and Petipa, and showed how they tackled (or failed to tackle) the crucial problems of content and form.[3]

The trend towards a complete expression of action in terms of dance images reached a climax in *Romeo and Juliet*, arranged by Lavrovsky[4] in 1940. In this ballet the choreographer entirely abandoned the use of pure mime, yet succeeded in finding balletic equivalents for the rich content of Shakespeare's play—scene by scene and even line by line. Lavrovsky's published notes on this ballet show a profound grasp of the nature of balletic realism:

[1] Joan Lawson, *Ballet in the U.S.S.R.*, p. 11.

[2] Cf. article on Noverre by I. I. Sollertinsky in *Classic Choreography*, ed. by E. Chesnokov (Moscow, 1937).

[3] *Maîtres de Ballet of the Nineteenth Century* (summarised by Joan Lawson in *Dancing Times* (London), 1939–40).

[4] Lavrovsky has much in common with Tudor, who has also composed a ballet on Shakespeare's *Romeo and Juliet*.

> "The depths of passion and ideas, the intensity of feeling conveyed by the protagonists of Shakespeare's tragedy, demand the fusion of Dance and Mime. . . . Mime should never descend to trivial, commonplace, imitative gestures, but become a genuine theatrical performance in which characters, emotion and passion are expressed by the movements of the body."[1]

During the war, progress in Soviet ballet was severely hampered, and the concentration on spectacular ballets in the style of Petipa at the Moscow Bolshoy Theatre gave casual visitors like Iris Morley[2] a misleading impression of the important trends in contemporary Russian ballet. Moreover Miss Morley never visited Leningrad which still remains, as it has always been, the classical home of Russian ballet which can be judged only by the standards achieved here. Her descriptions of the incomparable skill of Soviet ballerinas like Ulanova and Semyonova are of real interest, and show how far Russian methods of training surpass English ones, but she does not clearly distinguish between supercolossal starring vehicles and works of art. (A much better account is given in the S.C.R. pamphlet, *Ballet in the U.S.S.R.*, by Joan Lawson.)

Recent developments in England show interesting similarities with those in the Soviet Union between the wars. As one might expect from the experiences of men like Noverre, Perrot and Diaghilev, the important new ballets are being produced by artists working outside the long-established companies. *Sakuntala*, produced by Ernest Berk last April, was described by an expert on Oriental dancing (Beryl de Zoete) as "the most successful attempt hitherto made by West to meet East in the sphere of the dance."[3] Like Lavrovsky, Berk translated into dancing the action, atmosphere and characterisation of a great poetic drama—scene by scene and sometimes line by line. He used several traditional Indian styles with remarkable authority, adapting them to the requirements of the European theatre. *Sakuntala* lasted a complete evening, and was one of the most ambitious dance-dramas created in England since the days of Perrot.

The Negro ballets of Berto Pasuka, first produced in May, had such dramatic vigour and intensity of atmosphere that certain weaknesses in the choreography and execution were almost un-

[1] Quoted by C. W. Beaumont in *Supplement to Complete Book of Ballets*, p. 191.
[2] *Soviet Ballet* (Collins, 15*s*.).
[3] *New Statesman and Nation*, April 6th, 1946.

noticeable. Most important were *They Came* (dealing with the conflict of white and black cultures in Africa) and *De Prophet* (dealing with religious and class conflicts in the West Indies). In both these ballets the styles of dancing of the Negroes were welded into a dramatic whole by methods perfected in European dance-dramas. Though Pasuka's ballets are profoundly Negro in style, just as *Sakuntala* is essentially Indian, both are in the main stream of the Noverre tradition. The abstract and near-abstract ballets, on the other hand, represent a stagnant backwater, almost completely isolated from the main stream.

Frederick Engels and Materialistic Æsthetics

By Kurt Blaukopf

THE controversy on Soviet Art which has been occupying some attention in the Modern Quarterly suggests that the moment is opportune for reviewing the fate of Engels's ideas on art—especially his views on the relation between art and society.

Recent years have seen many attempts at Marxist interpretations of art, thus reviving the tradition, established towards the end of the last century, by writers like G. Plechanov, A. Labriola, F. Mehring and William Morris. But, to my mind, many of the more recent ventures in this field suffer from over-simplification. It is still believed, in some quarters, that Marxism is a ready-made recipe to be "applied" to all branches of knowledge.

From a more thorough study of the writings both of Marx and Engels, it becomes clear that the method of "applying" materialistic schemes is contrary to the intention of the founders of this school of thought.

In a letter to Engels of February 1st, 1858, Marx pointed out that he was against any artificial application of dialectical schemes to scientific investigation. Only through a careful criticism of facts and the verification of previous theories could, so Marx thought, a dialectical exposition of history be arrived at.

Holding the same views, Engels fought against any distortion of this principle with particular vigour. In a letter to Paul Ernst of June 5th, 1890, he condemned the idea of "fitting historical facts into a ready-made scheme." In his opinion, it was the task of the Marxist writer to "study history afresh." His attitude towards over-simplification is set out very clearly in his letter to Conrad Schmidt (August 5th, 1890):

> "In general, the word *materialistic* serves many younger writers in Germany as a mere phrase with which anything and everything is labelled without further study; they stick on this label and then think the question disposed of. But our conception of history is above all a guide to study, not a lever for construction in the manner of the Hegelians. All history must be studied afresh, the conditions of existence of the different formations of society must be individually examined before the attempt is made to deduce from them the political, civil-legal, æsthetic, philosophic, religious, etc., notions corresponding to them."

It is interesting to note that this aspect of the relationship between what is called the "superstructure" and the economic basis of society only gained prominence in the 'nineties of the last century. Engels, time and again, came back to it in his letters to P. Ernst, C. Schmidt and F. Mehring. But he was frank enough to admit that the "guilt" for a lop-sided interpretation of Materialism was partly his. Thus he wrote in his letter to Mehring of July 14th, 1893:

> "We all . . . laid and were bound to lay the main emphasis at first on the derivation of political, juridical, and other ideological notions, and of actions arising through the mediums of these notions from basic economic facts. But in so doing we neglected the formal side—the way in which these notions come about—for the sake of the content. This has given our adversaries a welcome opportunity for misunderstandings. . . .
>
> "So I am not only far from reproaching you with this in any way, but as the older of the guilty parties I have no right to do so, on the contrary; but I would like all the same to draw your attention to this point for the future. Hanging together with this too is the fatuous notion of the ideologists that because we deny an independent historical development to the various ideological spheres which play a part in history we also deny them any effect upon history. The basis of this is the common undialectical conception of cause and effect as rigidly opposite poles, the total disregard of interaction. . . ."

Two points in the letter quoted above are of prime importance to the student of materialistic æsthetics:

(*a*) The necessity of taking "the formal side" into account, i.e. the way in which ideological notions come about.

(*b*) The principle of "interaction" between the superstructure and the basis of society.

It is the great merit of Antonio Labriola to have embarked on an exposition of the meaning of these two sets of ideas (see his *On the Materialistic Conception of History*, 1896). Following Engels's ideas, Labriola pointed out the necessity of unravelling the network of "interaction." This led him to the theory of factors: he recognised that the economic factor was only responsible for changes in other spheres *in the last instance*; other factors, such as the political, legal, psychological—themselves dependent on the *economic* factor—were responsible for changes in the higher spheres

of the superstructure. This theory of factors was later taken up by Plechanov, who made use of it in his famous analysis of the French literature of the eighteenth century and of Russian literature in the nineteenth.

Labriola and Plechanov greatly contributed to the removal of crudities, inherent in early pseudo-Marxist interpretation of art and literature. It must be emphasised, however, that Engels himself had already drawn up the plan according to which criticism was to proceed.

In 1894, H. Starkenburg put the following question to Engels: "To what extent do economic conditions act causally?"

In his reply, Engels wrote:

> "We regard economic conditions as the factor which ultimately determines historical developments. . . . Political, juridical, philosophical, religious, literary, artistic, etc., development is based on economic development. But all these react upon one another and also upon the economic base. It is not that the economic position is the *cause and alone active*, while everything else only has a passive effect. There is, rather, interaction on the basis of the economic necessity, which *ultimately* always asserts itself."

It is clear from the above that Engels rejected the idea, according to which works of art and literature simply *mirror* the economic conditions of the society which gives them birth.

Economics and art are not directly linked to each other. Their relationship is not in the nature of a simple equation. This, too, was very clearly brought out by Engels in his letter to Starkenburg:

> "The further the particular sphere which we are investigating is removed from the economic sphere and approaches that of pure abstract ideology, the more shall we find it exhibiting accidents in its development, the more will its curve run in a zigzag. So also you will find that the axis of this curve will approach more and more nearly parallel to the axis of the curve of economic development the longer the period considered and the wider the field dealt with."

Engels adhered to this view, not only in the abstract setting-out of the process of production of artistic and literary ideas, but also in his literary criticism. This is apparent from his remarks concerning Margaret Harkness's novel, *City Girl* (1888).

Frederick Engels and Materialistic Æsthetics

Although an advocate of realism in literature, he was far from making any doctrinaire demands upon the author. He did not want the novel to become an inventory of the author's social and political ideas.

"The more the views of the author remain hidden, the better for art," he wrote to Miss Harkness. For this reason, he considered the novels of Balzac to be models of realism, where the realism of the writer triumphed over his personal convictions.

But even socialist novelists, so Engels believed, did not have to propound their views in novels. It is enough for them to depict real conditions faithfully and thus destroy the conventional illusions and at the same time arouse doubts concerning the eternal validity of the existing order. This aim, he wrote to Minna Kautsky (1885), could be attained without directly presenting the reader with a solution of these problems and, in certain cases, even without indicating where the sympathies of the author lay.

These few examples suffice to show that Engels had a far subtler approach to the problems of literature and to æsthetic problems in general than is commonly believed. The writings of Engels contain many a hint at the solution of problems still under discussion. This alone would justify the publication of a comprehensive compilation of all his utterances on æsthetic questions. Only such a collection would enable the contemporary student to assess the significance of Engels in this field, his influence on Continental writers and the relationship of his ideas to those of William Morris.

The fiftieth anniversary of the death of Engels might be suitably commemorated by inaugurating a more intensive study of his ideas on art and literature.

(We should be glad to publish such a compilation of Engels's utterances on æsthetic questions, or alternatively an exposition based upon and embodying a selection of such statements. Articles and communications on this whole topic will be welcomed.—The Editor.)

Communications

ARTISTS AND THEIR PUBLIC

To the Editor, MODERN QUARTERLY

THE interesting article by Derek Kartun in the last issue of your journal is, in a way, a supplement to Dr. Klingender's article about "Russian Art at the Academy." Although Kartun wisely refrains from Klingender's oversimplifications, which called forth such a lively controversy, he still deplores that Picasso is "out of touch with any considerable body of the people to an extent quite unprecedented in the history of great artists and their public."

A few weeks ago there was an interesting discussion in several issues of the Paris weekly, *Les Lettres Françaises,* a review which started clandestinely under the German occupation and acted as the official organ of the National Committee of French Writers until it had to give up this function under the pressure of those French writers who took exception to its—allegedly—predominantly Communist outlook. The discussion centred round the question whether there was really a divorce between art and public in post-war France. In his article, Kartun answers this question in the affirmative. He also refers to the activities of the writer Jean Cassou. This same Jean Cassou also made his contribution to the discussion initiated by *Les Lettres Françaises,* and it may be of some interest to confront his views with those of Kartun. What he says reads in translation as follows:

> "The problem of divorce between art and public has emerged during the whole nineteenth century and during our beginning of the twentieth century. It is the strange adventure of French art which has pursued its course while astonishing the average public. A separation has taken place between art and the average and official taste and, at the same time, between art and what people have called 'reality'—which is rather the average conception of reality which these people have. There is therefore no divorce between art and reality, but between art and the conception of this reality which the average bourgeoisie have created for themselves.
>
> "What has determined this average conception? It comes from certain Italian pictures. It constitutes æsthetics, which go from Italian painting to calendar polychromes, the whole being codified by the official exhibitions, the 'Ecole des Beaux-Arts,' and the Rome Prize.
>
> "Since Ingres there has been a conflict between living art (Ingres, Delacroix, Gauguin, Cézanne) and these æsthetics of the vulgar.
>
> "How to react? One must accustom the French public by exhibitions, criticisms, and studies to become conscious of an art which has contributed to the prestige of French civilisation."

It may interest your readers to know that the man who professes such views is not only a distinguished art critic, novelist, poet, and essayist, but a Marxist who, incidentally, played a leading part in the Resistance Movement.

It is, of course, neither possible nor my intention to comment in a short letter on the divergence of Kartun's and Cassou's opinions. The question actually raised is how the artist who must rely on symbols (not on words), i.e. the painter and sculptor as well as the composer, can and should make himself understood to a public which no longer (or not yet) speaks a common language—that means which does not possess such common symbols. This question is, of course, not new, but arises always during periods of decisive social changes. It is only the fact that the social changes which we are witnessing are particularly deep and elemental which acerbates this problem in the realm of arts and, consequently, in the field of criticism. It makes it, to my belief, all the more imperative to be very careful in giving advice to artists—particularly to real artists and to genuinely progressive ones—which may prove impracticable in present circumstances. "The sense of being in tune with society . . . which lies at the bottom of the flowering of Renaissance Italy" cannot possibly be achieved in a society which is out of tune with itself. I appreciate that the path between the Scylla of the formal anarchy of the would-be revolutionary and the Charybdis of the "Sanity in Art" academician is slippery and dangerous. But the art critic who wants to give a lead to his readers should be aware of the fact that mortal peril lurks on both sides.

RUDOLF POPPER.

MARXISM AND MODERN ECONOMICS

To the Editor, MODERN QUARTERLY

JOHN GOLLAN'S reply to Mr. Worswick is rather unfortunate, not because Worswick's essay is beyond criticism, but because Gollan in attempting a Marxist criticism reveals an incorrect understanding of the Marxian theory of crises. In particular he expounds a rather crude under-consumption theory, with which Marx had very little in common. In the *Marx-Engels Correspondence* (p. 153) Marx shows that in "simple reproduction," a position of equilibrium can be obtained in which the demand for consumption goods will equal the supply of consumption goods. Similar conditions are proved to be possible for expanded reproduction in Volume II of *Capital.* This position is only possible if the correct relationship is maintained between the consumer goods industry and the production goods industry, and only if the activity of the production goods industry is maintained at a sufficiently high level. This obviously has a marked connection with the

Keynesian theory of investment as a regulator of the level of employment.

On the attitude of Marx to the under-consumption theory the following extract from *Capital* (p. 475) is sufficient:

> "It is purely a tautology to say that crises are caused by the scarcity of solvent customers or of paying consumption. . . . If any commodities are unsaleable it means that no solvent purchasers have been found for them, in other words, consumers (whether commodities are bought in the last instance for productive or individual consumption). But if one were to attempt to clothe this tautology with a semblance of a profounder justification by saying that the working class receive too small a portion of their own product, and the evil would be remedied by giving them a larger share of it, or raising their wages, we should reply that crises are precisely always preceded by a period in which wages rise generally and the working class actually get a larger part of the annual product intended for production."

Gollan appears to accept just such an over-simplified under-consumption theory and to overlook that investment in the production goods industry increases the consuming power of society, and may even be more than sufficient to meet the supply of consumption goods on the market.

Maurice Dobb, in his *Political Economy and Capitalism*, gives an account of the Marxian theory of crises which clearly shows that, though a crisis may *manifest* itself as "relative overproduction," or "ineffective demand," it is not correct to *end* the analysis at that stage.

Regarding Mr. Worswick's essay, I would disagree with his statement that there are no inherent economic contradictions in a full employment capitalist system. I would maintain that it would be politically impossible to implement the full policy that follows from the Keynesian theory (i.e. extensive investment either directly by public authorities or encouragement to private industry, re-distribution of the national income in order to increase the marginal propensity to consume and hence increase the multiplier, opposition to wage reductions, control of banking policy and the rate of interest), and still leave the major industries of the country in the hands of the capitalist class. It is not possible to take away their economic power with one hand and give it back to them with the other. The very nature of the capitalist system makes each individual capitalist look after his own interest regardless of the general interest of society, and even at times regardless of the collective interests of capitalists as a class. If a disturbance developed in one section of industry, it could only be tackled after the event, and even then the individual capitalist or capitalists would regard their own interest uppermost, and this might not coincide with the interest of society.

Communications

The Keynesian theory for maintaining full employment, even if we believed it possible of full implementation in a capitalist society, would therefore not end economic contradictions.

J. E. MORTIMER.

To the Editor, MODERN QUARTERLY.

THE purpose of my article in the December issue was "to sketch in barest outlines these recent developments (in academic economics) and to suggest that they have an important bearing on the struggle for socialism." On re-reading it, I think I did more or less what I set out to do. But I am not at all clear what Mr. Gollan is after in his article "Is 'Modern Economics' Adequate?"

The bulk of his article is devoted to a criticism of the analysis contained in Beveridge's *Full Employment in a Free Society*, a somewhat disingenuous choice of a handbook of modern economics, since the book was written in a popular style for a wide public. Mr. Gollan implies throughout that I agree with Beveridge's formulations, and finally takes a passage from my own article out of its context and, by so doing, completely misrepresents my position. May I quote the passage in full: "There are no inherent economic contradictions in such a full employment capitalist system. All that is required is the will on behalf of the Government to pursue the right fiscal policy, and it would appear that the capitalists should be as much in favour of such a policy as the workers."

Mr. Gollan comments: "Nothing is further from reality . . . it is an illusion to think that the powerful British capitalist class are enamoured with full employment theories." But I made exactly this point in the very next paragraph of my own article, which begins: "There is, however, an unexplained residue in the analysis of capitalism by the modern economists and the policy which flows from it. Why were the capitalists in the United States so violently hostile to the New Deal, a mild expansionist policy, etc.?" I tried to give an answer in terms not unlike those used by Mr. Gollan himself. Why is he so anxious to confuse the issue?

The same tendency to confuse rather than to clarify is apparent in Mr. Gollan's treatment of the cause of capitalist crisis. He dismisses the Keynesian analysis of the interrelation of decisions to save and decisions to invest, asserting that: "The great bulk of capital accumulation or savings is the movement of capital within a given concern." How then can increasing "indebtedness" be adduced as a contributory factor making for the breakdown of a boom? Mr. Gollan overlooks the inconsistency.[1] He sums up his own position by quoting the passage from

[1] Indeed, Mr. Gollan wants it all ways in his treatment of the finance of investment. It is true, as he says, that in Britain a great part of *industrial* investment is financed out of undistributed profits: the role of the new issue market is small. Why, then, all the fuss about the Capital Issues Committee during the war? Non-essential private investment was prevented, not by financial controls, but by direct physical controls of raw materials and labour.

Capital: "The last cause of all real crises always remains the poverty and restriction of consumption of the masses, as compared to the impulse of capitalist production to develop the productive forces as if only the absolute power of consumption of society were their limit." But this is only half the picture. If capitalists were always willing to invest (irrespective of expected profitability) then effective demand would be maintained and there would be no crisis. Such a system of steady capital accumulation with consumption at a very low level might be futile, but it would not break down. To complete the picture of the crisis, we must also introduce the theory of the inducement to invest, based upon the expectation of profit, which in turn is related to effective demand and the stock of capital.

Mr. Gollan says of the analysis of the modern economists: "Throughout, investment or consumption are treated as if it didn't matter whether expenditure is on one or the other." Since, in another context, he quotes Mr. Kalecki from p. 53 of the *Economics of Full Employment*, it is a pity he did not turn to the treatment of the long-run problem half a dozen pages earlier. Mr. Kalecki points out that: "Private investment must be at a level adequate to expand the capacity of equipment *pari passu* with the increase in working population and productivity of labour, i.e. proportionately to full employment output." That the maintenance of this required level of private investment in a predominantly private enterprise system presents *practical* difficulties is undeniable. But one may well ask why Mr. Gollan implied that modern economists had not even thought of the theoretical problem.

If Mr. Gollan plays fast and loose with modern economic theory, he is also not always careful about his facts. About the boom he says for example that: "Wages can rise, but never keep pace with, and are always behind the rise in production." Here Mr. Gollan keeps company with the orthodox perfect competition theorists. The facts, however, show no such tendency. By a curious coincidence, I cited this case as an example of the beneficial effect which an increasing knowledge of the facts has had in clearing away a good deal of controversial lumber. I was too optimistic!

I am not anxious simply to score points off Mr. Gollan. His article provides many opportunities, but rejoinders should be short, and in any case the subject is too important for that kind of controversy. Modern economics is not perfect: there is substance in the criticism that in recent years too much attention has been paid to short-run theory at the expense of the equally fundamental long-run, dynamic analysis. But whatever the theory it must submit to the test—and it is no easy one in any social science—of an appeal to the facts. The approach must be, and in my view is becoming, more scientific. Mr. Gollan, however, prefers to plant himself firmly in the nineteenth century and to refuse to acknowledge what is happening around him. If he must do this, *Capital*

is a good place to stand in, but I suggest that there are better ways of finding the solutions to the problems of our time.

G. D. N. WORSWICK.

To the Editor, MODERN QUARTERLY.

I WOULD be the last to deny that recent developments in academic economics are worthy of serious study and analysis by Socialists. My article, concentrating as it did on the question of full employment, only touched on the fringe of the many important issues raised.

But is my choice of Beveridge so disingenuous? Style has little to do with the issue. *Full Employment in a Free Society* was presented as a report, which under other circumstances would have been issued by the Government. It is an attempt on the basis of modern economic theory, to present practical proposals for full employment. No doubt Mr. Worswick will not agree with all Beveridge writes, but would he disagree with the substantial correctness of my claim? Mr. Kalecki's contribution in the Oxford Institute study, *The Economics of Full Employment*, is animated by the same general principles underlying Beveridge's work, although, of course, there are differences.

These points apart, Mr. Worswick returns to the crux of the matter by repeating his claim that there are no inherent economic contradictions in a full employment capitalist system and all that is needed is the will on the part of the Government to pursue a correct fiscal policy. Mr. Worswick seems to agree that a state of affairs in which capitalists were willing to invest irrespective of profit expectations, effective demand being maintained and crises avoided, is completely unreal.

The key point of Marxian economics is that capitalist production is for profit and not for use. Marx's theory of crisis had this basic idea as its starting point. Consumption in a capitalist society takes place within this limiting factor. But the realisation of profit depends in the long run on consumption. This is the contradiction, the point of stress and ultimate breakdown in the system. It is applicable to, and the underlying cause of, not only the trade cycle or short-term movement, but the long-run economic dynamics of capitalism so accurately foretold by Marx.

From this point of view "steady capital accumulation with consumption at a very low level" is not only futile, as stated by Mr. Worswick, but impossible. Any capital accumulation in capitalist society brings with it the contradiction of its property relationships, the profit motives of the capitalist and the consumption needs of the masses, the contradiction ultimately between production and consumption. From this it is clear that it is the opposite of Marxist economic theory to say that profit expectation of the capitalist plays no role in the crises. Our point is that these expectations are decided by market conditions, and under capit-

alism these conditions are the result of the contradictory forces we have described above.

(In passing, just a note about what Mr. Worswick claims is my "inconsistency." Beveridge advanced rising tension as a result of increasing indebtedness in boom conditions as a factor making for crises. My treatment of this point was in the background that the "greatest single item" in capital accumulation would be industrial profits. As to the fuss—surely the reason is obvious. Fiscal controls alone are inadequate, and proves our whole case, that the matter is not one of fiscal policy alone.)

It is from this point of view that the relationship between investment and consumption must be studied. True I did not quote Kalecki, but I did quote Beveridge that the real reason for a state sector in the economy was not to destabilise it to fit in with the instability of private investment "but in order to make a steady development on a long-term programme possible over a longer field." Of course, Mr. Kalecki and others deal in a realistic way with the investment level necessary to maintain full employment, but the explosive nature of modern production and the need for planned correlation between production and *consumption* is not made a central point. Again, I would advance Socialist economic experience. The latest five-year plan of the U.S.S.R. envisages a 50 per cent. increase in industrial output, a national income increase of 38 per cent. and an increase in annual average wages by 48 per cent. This is the experience of a society built without profit motives.

The point at issue is not that modern economics does not deal with these things or that Mr. Worswick and his friends do not see the resistance of the capitalist class. Starting from the Keynesian premise, their entire approach is lopsided. The central issue is that their aim is to maintain profitability and thus to keep the capitalist system working. What they do not see is that so long as capitalist production continues it is constantly creating conditions of crises in which full employment becomes unreal. In so far as the problem of full employment in modern society can even be partially solved this is only by a struggle against the profit system. The ultimate solution is Socialism. Socialism, the outcome of Marxist economics, is very much twentieth century, in spite of Mr. Worswick's quips to the contrary.

Mr. Worswick raises a very important final point regarding wages: the share of national income and important new work in this direction. The new studies do not disprove my point. What they do prove is that the increased capitalist share is a temporary one and is brought down again to roughly its former level as a result of the laws of capitalist production, including crises and the class struggle. This is a bigger subject, however, which must be reserved for fuller subsequent treatment.

J. GOLLAN.

Reviews

PRUSSIANISM AND NAZISM

The following article is based on an article by Georg Lukacs in the Soviet periodical, International Literature (*Moscow*). *D. M. Van Abbé prepared a translated version of this for the* MODERN QUARTERLY, *but it was considered that British readers would need both simplification and elucidations. As Mr. Van Abbé is out of Britain, I have undertaken to provide a new version, and am particularly glad to have the opportunity of paying in this way a tribute to Lukacs, one of the most profound of Marxist literary critics. My version reproduces the main lines of Lukacs' article; and while the introduction has been entirely rewritten, the analysis of the works of Kleist, Fontane, and Mann follows as closely as may be that of Lukacs.—R. P.*

THE failure of the Revolution of 1848 marks one of the disastrous turning-points in German history. The German middle class, for the moment triumphant, ceded their power into the hands of the Prussian and Austrian monarchy, partly out of fear of the German masses, and partly out of an imperialist ambition to maintain and extend German dominion over the eastern nationalities, Poles, Czechs, Hungarians, over the Italians, too. From the moment of failure, the German bourgeoisie began to appeal more and more to the Prussian king to impose unity on Germany by force, as an alternative to the achievement of unity through popular revolution, in spite of the fact that, almost without exception, the liberal middle class detested the Prussian form of government, "Prussianism," which meant autocracy, Junkerdom, militarism, bureaucracy. When at length, under Bismarck, Prussia conquered Germany, it received the enthusiastic support of the liberals. A Germany was fashioned in which Prussia held an overwhelming power, and in which Prussianism became the dominant outlook.

Prussianism arises from a combination of elements.[1] Its admirers (for instance, Thomas Mann in his early period, or Moeller van den Bruck) would define it as an ideal of duty to the State, or of duty in the abstract. In this sense its characteristic product is the incorruptible officialdom so admired by Hegel, an officialdom which strictly carries out its orders and in times of good leadership is very efficient and energetic, but which is also rigid and inflexible and unable to meet unforeseen difficulties and to act independently. Such an officialdom is necessarily connected with absolutism, for its orders emanate from an unquestioned authority.

[1] For a description of Prussianism in its modern form, see S. D. Stirk, *The Prussian Spirit, 1914–40*. Faber, 1941.

Frederick the Great first fashioned this bureaucracy. That it achieved such excellence in Prussia must be attributed, not only to the efficiency to the Prussian ruling class, but, perhaps more particularly, to the fact that Prussia, from the time of Frederick the Great to that of Bismarck, was the only German state to win new territory—Silesia, Poland, the Rhinelands, and in 1866 a whole group of German states—where the Prussian bureaucracy gained its schooling as a sort of colonial administration.

But Prussia was never a centralised monarchy, such as, for instance, France. The Junkers played an essential part in the formation of the concept of Prussianism, and they were landowners with a large measure of independence. In the country districts east of the Elbe, lands which had been conquered from the Slavs over many centuries, the barons and squires retained up to 1918 some of the freedoms of lords of the marches. Though some modifications were introduced in 1872, the Junkers were outside a few larger towns the magistrates, heads of the police, the chief employers, patrons of the Churches, and the leading figures in local and provincial assemblies. The entourage of the king was chosen from their ranks, and the whole corps of officers was reserved for the Junkers. Prussia was ruled, in effect, by an alliance of king and Junkers, in which both sides made concessions. But the Junkers never became a court aristocracy; they remained firmly rooted in their native soil, crude and uncultured hobbledehoys, shrewdly conscious of their class interests.

The fourth main factor of Prussianism, alongside the autocracy, the bureaucracy, and the Junkers, was the Army. A *military* state from the outset (the *March* of Brandenburg was the nucleus of Prussia, and East Prussia had been won by the Teutonic Knights), Prussia's rise and expansion had depended on an Army whose size was out of all proportion to the size and prosperity of the country. Two characteristics are here to be observed. First, a cult of militarism built a myth of the Army as the heart of the State, a cult which enabled the German rulers to keep the Army as their direct instrument, uncontrolled by Parliament, right up to 1918 (cf. the classic view of the Junkers, put by the Junker leader, Oldenburg-Januschau, that "the Kaiser, as commander-in-chief, must be able to command a lieutenant to take ten men and shut the Reichstag"); and second, the army was the exclusive sphere of influence of the Junkers, who monopolised the officer corps and fashioned its outlook. Though the slogan of "duty" was never off their lips, the officers understood it in a peculiar way—as duty to the king and government in so far as the traditional interests of the Junkers and army were furthered. During the Napoleonic occupation of Prussia, under Bismarck and William II, as under the Weimar Republic, the Army leaders often intrigued against their rulers in the interest of their own ideal of class.

This whole concept and practice of Prussianism implied that the middle class was weak and pliant. The backwardness of the middle class

left the Prussian kings of the eighteenth century with no alternative to an alliance with the Junkers; and the peculiar course of German history in the nineteenth century enabled king and Junkers to maintain this dominance, to find, in fact, allies in an imperialistic bourgeoisie fearful of the Socialist masses. Bismarck himself complained of the lack of "civil courage" among the middle class; Prussianism was the ideology of a people afraid of self-government, and finding a compensation in the glorification of power.

It is not difficult to see the connection between the Prussianised German State and the Nazi State; everyone knows of the contribution to the rise of Hitlerism made by the Army leaders, the high officials, the judges of Prussian Germany. At the same time there was always a tension between the aristocratic, duty-bound, traditionalist Prussian and the plebeian Nazi; above all, the reserve and discipline of the "Prussian spirit" contrasts strongly with the fanaticism and emotionalism of the Nazi. This contrast is being exploited now in the Nürnberg Trial, where Army leaders and high officials make the most of this tension. Can we find any connection between the Prussian and the Nazi spirit? Here a closer study is necessary of the Prussian, and remarkable insight into this problem is afforded by the evidence given by three of Germany's greatest writers, Heinrich von Kleist, Theodor Fontane, and Thomas Mann; the first a Junker himself, the second a middle-class Prussian, the third in his middle life an admirer of the Prussian spirit and the author of an appreciative study of Frederick the Great.

Kleist (1777–1811) wrote his great plays in the period of Prussia's humiliation at the hands of Napoleon. Bred to the Army, he left it during the period of the uneasy peace with France, out of disgust with its brutal discipline and coarse spirit. Forced by the occupation of Prussia to affirm the claims of the State, he entered into political journalism, wrote a violent anti-French propaganda play, and another, *Prince Frederick of Homburg*, his most famous work, which centres in the problem of the relations of individual and State. Despairing of his own future and that of his country, he committed suicide just before Napoleon's Russian adventure.

Lukacs properly calls *The Prince of Homburg* "*the* drama of the Prussian spirit." It deals with the victory at Fehrbellin (1675) over the Swedes, when the founder of the greatness of Prussia, the Great Elector of Brandenburg, assured his country's predominance in north Germany. The Prince is a cousin of the Elector, a Junker brought up to military service. In command of the cavalry in the battle, he charges before the signal is given by the supreme commander, and, though the victory is won, it is not so decisive as it would have been had he obeyed orders. He is acclaimed as the victor; but the Elector has him brought before a court-martial. The Prince, with typical Junker arrogance, cannot

believe the Elector to be in earnest; but when he sees his grave being dug, he collapses into abysmal terror and begs the Elector's wife and niece to intercede for his life. The Elector puts the decision into his own hands; and at last Frederick gains a true view of his responsibility. He accepts his death as a necessity of State, and goes willingly to his fate "to glorify the sacred law of war." In the moment of acceptance, he is released; he faints, and as he comes to the officers standing by cry: "To arms! To battle! Down with all enemies of Brandenburg!"

The play is normally held to be a glorification of the State of Prussia; yet in Kleist's time and in the succeeding decades, it could not be performed in Prussia owing to the protests of the Junkers. For one thing, it was considered to be a slur on the Junker class that the Prince should debase himself so deeply out of fear of execution; for another, Kleist portrays him at the beginning of the play as a sleep-walker, who cannot distinguish truth from his delusions, and at the end as a man so transported by his emotions that he is carried away by his ardour for self-sacrifice, and faints when he is told he is pardoned. He is in fact a morbid character. Serious critics have censured Kleist for this "irrelevant" conception, yet here more than anywhere else is Kleist's intuitive genius evident. For the play is Prussian, not merely because it glorifies the Prussian State, but even more because it shows the "internal contraditions of the Prussian spirit" (Lukacs).

The problem is expressed in the Prince's words:

> *"The laws of war, I know, must rule supreme,*
> *But would the tender feelings could as well."*

In his character, the tension between subjective individualism and the claims of the State comes to breaking point.[1] The acceptance of "duty" as the overriding ethic implies a resistance within the individual which takes a morbid, violent, nihilistic form. This Kleist felt in himself; for this he was an outsider in his own time. His play dissolves the illusion of the security and psychological naturalness of the Prussian subservience to State; it shows its instability—and for that reason had to be rejected by the upholders of this morality.

Theodor Fontane (1819–98), a Prussian of middle-class origin, a man of a placid, humorous character, and perhaps the most distinguished realistic German novelist, approaches the Prussian problem from a totally different point of view from Kleist. Disillusioned by the behaviour of the middle class during 1848, he found a compensation in dwelling in

[1] Many examples of this tension can be adduced. The Prussian Fichte was perhaps the most subjective and passionate of philosophers; yet in his *Enclosed Commercial State* he constructed the most rigid and authoritarian ideal of a State ever known. The authoritarian Prussian Junkers of the early nineteenth century, Gerlach, Senfft von Pilsach, etc., were adherents at one time or another of most emotional, pietist communities. In our own day the Prussian officer Ernst Jünger, who preached the ideal of an authoritarian State modelled on the Army, is also an excessive individualist who finds in dreams the most profound truth.

his ballads on feudal subjects, and then, coming nearer home, sought for the sources of Prussian greatness in the homes of the Brandenburg Junkers (*Journeys through the Mark of Brandenburg*, 1861 *ff*). He began writing his novels in the late 1870's, and it is on these that his true fame rests. The most important deal with the Junkers of the nineteenth century. As the class which brought Prussia and then Germany to greatness, he does not question their importance; but his honesty and shrewdness do not allow him to idealise them. Just as he turned more and more, in the last decade of his life, to radicalism, even to sympathy with the Social Democrats, so his novels show the problematicalness of the Prussian ethic of "duty," the conflict between this rigid and mechanical code of morals and the claims of real personality.

As Lukacs puts it:

> "Fontane found behind the sometimes dazzling, frequently decent and always 'correct' Prussian exterior an interior of irresponsibility, resigned despair, and sentimental or calculating cynicism. Values withered, real love was trampled on, duelling deaths abounded, lives were destroyed—all without real conviction either of Good or Evil." His early works display Prussian splendour; his best and latest offer "a (normally gentle) sarcasm of Junker corruption and decay."

A good example is his novel, *Schach von Wuthenow* (1882), a tale of the Prussia of 1806, just before the disastrous war with Napoleon. The hero, a Junker who is a colonel in an elite Prussian regiment, seduces on a momentary whim a society girl whom, from motives of vanity, he does not want to marry. The mother presses him, his King, on being appealed to, orders him to marry her; without a great struggle, he conforms to the claims of duty and marries her. Immediately after the ceremony he shoots himself. This tale, which could easily have been taken for a contemporary incident, gains added force as a symbol of the hollowness of the Prussian ruling class on the eve of the collapse before Napoleon, intimations of which Fontane weaves into his plot.

The common run of officers is shown to be brutal, licentious, coarse, cynical. They parody Luther's marriage with the former nun, Catherine Bora, in a riotous nocturnal procession. Schach himself refuses his participation, but at the same time he refuses to put a stop to a proceeding which shocks his religious and moral feelings. On hearing of Schach's proposed marriage, the officers issue crude caricatures indicating that Schach really loves the beautiful mother of his pock-marked fiancée. This is the class background to which Schach, himself a serious and honourable Junker and officer, is unquestioningly loyal. His suicide is as much motivated by his subjection to his comrades' views as it is by the fear of what the King and the more responsible Junkers will say on seeing him married to an ugly woman—though he recognises that the girl is intelligent and spiritually attractive as well as charming.

The moral is pointed at the end by an officer, who, critical and dissatisfied, is the only character to suggest that the traditions of Frederick the Great are ruining Prussia. Commenting on Schach's suicide he writes:

> "It is a sign of the times which . . . could occur in this form only in the capital of His Royal Highness the King of Prussia, or, if anywhere else, only in the ranks of our Army which lives on the Frederician tradition—an Army in which honour has turned into conceit, and the soul into a clockwork machine. . . . This false conception of honour makes us dependent on the most unreliable and arbitrary thing in life—the judgment of society, built on shifting sands—and to this social idol we sacrifice the noblest and most natural instincts. Schach has fallen a victim to this cult of a false honour, which is nothing but vanity and perversity. . . . These illusory values, which have ruined Schach, will destroy us as a nation."

If Fontane stands out above his contemporaries for his insight and candour, so does Thomas Mann in the following generation. And Mann too had to wrestle with the "Prussian problem." In his war writings, 1914 to 1918, Mann shows himself a fervent admirer of Prussia, of authoritarianism as against democracy; and he wrote a eulogistic study of Frederick the Great. But running through many of his most important works is the theme of the conflict between the claims of ordinary social life and the nihilistic, chaotic forces within man—particularly evident in the artist. In his masterpiece, the short story, *Death in Venice* (1913), this conflict finds an expression which can be considered as the anatomy of Prussianism.

The hero, the writer Aschenbach, is the son of a high official in Prussian Silesia. "His ancestors were officers, judges, administrators, men who had spent their rigid, decently meagre lives in the service of their king. Inner spirituality had once broken out in the family in the person of a preacher." His father had married the daughter of a Czech musician (this also we can take to be indicative of the tension in the family character); and Aschenbach's artistic character arises from this "marriage of the sober conscientiousness of service with darker, more ardent impulses."

As an artist, Aschenbach is indeed the idealisation of the Prussian. He serves invisible values, but above all he *serves*—Mann calls his work "a rigid, cold, and passionate service"—and "his whole being as set on fame." He writes about super-sensual decisions and judgments—but he is also the author of a prose epic on the life of Frederick the Great. He had renounced feeling and joy, his God was discipline, his strength the strength of weakness, passive resistance to the forces of decay, corruption, chaos which hide beneath "the empty and severe service of form" or which issue in specious self-idealisation of one kind or another.

When the novel opens, Aschenbach is a man of fifty. He feels that his long struggle for self-control has made him tired, that he can hardly maintain it. He starts on a journey of escape, intending to "loaf round the world." But, on the way to Venice, he sees a beautiful boy, the symbol of all that naïve and natural beauty from which he had shut himself off. He cannot tear himself away from contemplation of the lad; he begins to follow him everywhere, his infatuation gains on him as, symbolically, cholera spreads in the city. An accident prevents him from carrying out his intention of breaking away from the spell; and a dream in which he succumbs to bacchantic obscenities and blood lust completes his moral collapse. Death supervenes on his moral decay. There is a remarkable consistency in the evidence on the Prussian character offered by these three writers, Kleist, Fontane, and Mann. Note that they are generally recognised to be in the first flight of German imaginative writers and are particularly distinguished for their insight into the human soul. Note, too, that all, when they wrote the works referred to above, were sympathetic to Prussia and Prussianism. The average Prussian, particularly the average Junker, did not like their analysis; he preferred the crude idealisation of Army life, of the squirearchy, such as are to be found in the novels of fifth-rate authors like Wildenbruch, or in the recent account of Cadet Corps life by the Free Corps man, Ernst von Solomon (*Die Kadetten*). Or the more intellectual Prussian, like Ernst Jünger, observes two contradictory sets of values, one, Prussianism, valid in the outer, socio-political world, the other applying to the inner, private world, subjective, emotional, or what you will. But the greatness of the three authors lies in that they recognised the contradications and tensions within Prussianism, they show what are its implications. All show, in particular, how easily this Prussian code of formal honour and duty, of discipline, can collapse when it comes into collision with real human relationships, upon the perversion of which it is built.

They have different "solutions." Kleist's hero finds reconciliation with duty not on the plane of self-control so much as on the plane of ardent worship of the State; he does not gain stability, he falls into a passion of exaltation—the play fittingly closes with a call to battle. Fontane leaves us before the dilemma of a ruling class whose ethic is hollow and barren. Mann leaves us appalled at the chaos which Prussian discipline can only temporarily cover over. And in Mann's writings of the last war we see further considerations of this problem. In his *Betrachtungen eines Unpolitischen*, Mann, while attacking the democracies of the West, defended the authoritarian State as being essentially German; he rejected scornfully the idea that the masses are "of age" and have the right to participate in government; and he painted a lurid picture of the decadence of democratic Europe, from which Germany could be rescued only by authoritarianism and discipline. This is essentially the same

theme as in *Death in Venice*. Yet here, in the imaginative work, the decadence was *within* the authoritarian system, the dialectical companion of self-discipline; and Mann himself spoke of the German's characteristic "sympathy with death," of the "fascination of decomposition."

In espousing the cause of democracy, of humanitarianism, Mann began to find a way out of this vicious circle. In his great novel, *The Magic Mountain* (1924), he symbolised the struggle of the forces of life with those of death and decomposition; and now he clearly identified life with democracy, death and decomposition with romantic, authoritarian anti-democracy. As yet, however, Mann was not completely convinced in either direction—he saw too clearly the weakness of the old democratic philosophy as contrasted with the romantic anti-capitalism which invested authoritarianism with an aura. It was only later that he learned, through recognition of the character of "imperialistic capital and international capitalism," to appreciate democracy as a living process, a step which made him a leading exponent of the unity of democratic forces against Nazism (1930) and a powerful and incisive spokesman against Hitlerism since that date. Equally, by 1930, he realised the fundamental identity of the philosophies exalting the irrational instincts with the theory and practice of authoritarianism (in his essay, "The position of Freud in Modern Thought" in *Die Forderung des Tages*, 1930).[1] In a society where all have access to the work they can do and to self-government, where class barriers are overcome, where irrational and hidden forces are mastered and society becomes subject to the conscious will of the collectivity, the tension between irrational individualism and authoritarianism is overcome.

The work of our three authors, particularly the development of Mann's ideas, throws light on an important aspect of the relationship between Prussianism and Nazism. We see that in Prussianism there lie, suppressed but always threatening to erupt, those forces of chaotic violence, lawlessness, brutality, which in Nazism come to the surface as a philosophy of society. The "nihilism" of the Nazis, defined in their deeds as in the works of Rauschning and others, is not the reverse of Prussianism; or rather, it is the dialectical opposite, the hellish twin of Prussianism. Prussianism, i.e. authoritarianism, breeds this nihilism, is fed on it, is necessary because of it. And Nazism cannot be overcome by restoring a strong authority, as many of the old conservatives of Germany, from the Catholics to Ernst Jünger, would suggest. It can be overcome only by the emergence of a true and radical democracy, which creates the conditions under which the individual finds a productive outlet for his energies, and in so doing dissolves the tension between

[1] It may, indeed, be said that the outbreaks of literary Bohemianism, amoralism, cultural anarchism, which have occurred in this century in a most violent form in Germany are not evidence of the liberation of the individual, but are fundamentally compatible with authoritarianism.

instinct and reason, anarchy and duty, the individual and the State. Germany has, for the last hundred years, been faced by what Lukacs calls a "false dilemma"; advance can come only through abolishing (in a Hegelian sense) the two antitheses which have held its people in thrall.

ROY PASCAL.

Essays on Growth and Form presented to D'Arcy Wentworth Thompson. Edited by W. E. LE GROS CLARK and P. B. MEDAWAR. Oxford, 1945. 21*s*.

THIS volume of essays marks the completion by one of the greatest figures in modern zoology of sixty years as a professor. It contains twelve contributions on a variety of aspects of a vast subject, the whole of which D'Arcy Thompson mastered. The book is really for professional zoologists, a good deal of it intelligible only to a specialist on growth or development, and for that audience it is of first-rate importance. But it has also, it seems to me, an interest for a wider public in that it illuminates certain important aspects of the recent history and the immediate future of zoological science.

Immensely important as the Darwinian theory of evolution was in unifying zoology, it had a less valuable side. It opened a gap in method and outlook between the main stream of zoology and the physical sciences at a time when the swift advance of the latter would have made close collaboration fruitful. For social reasons discussed in Prenant's valuable book on Darwin, the greatest outburst of research energy touched off by Darwinism was in the German universities. There attention was concentrated on proving the theory up to the hilt by the means readiest to hand: the establishment of relationships of evolutionary descent between animals by intensive search for similarities in their *post-mortem* structure, both adult and embryonic. An immense edifice of evolutionary comparative morphology grew up. And such was the prestige gained by the quantity and quality of the output from the German schools that comparative morphology, deferentially assisted by a few servitor sciences such as heredity, seemed to many at that time to comprise the whole of scientific zoology. The analysis of living animals as *functioning* structures, as ordered systems of processes, an analysis which is perfectly compatible with a Darwinian approach, seemed unimportant. The form of an animal, including the embryonic growth which culminates in the adult form, were felt to be adequately explained simply by discovering the ancestry of the animal; and for that a description of shape and structure was enough. I have myself heard a famous zoologist of that generation say that all experiment introduces abnormality, and cannot therefore contribute to our knowledge of animals. With such an attitude this great stream of zoology, the momentum of which persisted up to the First World War, was obviously uninterested in problems

where any collaboration with the physical sciences was possible. It took zoologists very far from the causal analysis practised in the physical sciences.

D'Arcy Thompson's greatness in the world of zoology lies partly, it seems to me, in that he broke through this isolationism of zoology, and at a receptive time. In 1917 he published a famous book, *On Growth and Form*, in which he assembled a great deal of scattered and neglected earlier work, and contributed much more of his own thought, on the application of mathematics and physics to problems of animal form. By this he contributed to the new wave of opinion, which, drawing support from many directions, led to the modern predominance of experimental zoology.

It would be a mistake, however, to think that no vestige remains of the isolation of zoology from the physical sciences. The gap has, of course, been bridged in many places by modern biochemistry, physiology and embryology. Much interesting bridging is indeed recorded in this volume. For instance, Le Gros Clark discusses the folding of the cerebral cortex in terms of geophysical models of the shrinkage of the earth. J. Z. Young begins the physiochemical analysis of the form of a nerve fibre, an extraordinary semi-fluid thread, which may be a million times longer than its diameter. From the chemical side, Astbury discusses recently-acquired knowledge of the shape of chemical molecules of biological importance, work which is destined to have a great and not too distant future.

Yet zoology still has inadequate contact with the physical sciences. An important example of this is the poverty of our knowledge of the fine structure and fine function of living matter. This has become a sticking point, as Bernal calls it, for embryology, genetics and physiology. All are waiting longingly for more knowledge of what goes on inside cells. Except perhaps for the confused field of vertebrate behaviour, with its implications for human society, no part of biology would more richly repay an investment of large-scale research. But this means bringing together physics and biology in a way and to an extent not hitherto attempted. It probably involves, for instance, reform in the training of scientists, since, as Danielli points out in this volume, the psychology of problem-solving requires that these sciences be brought together in single individuals, as well as in teams of specialists. This is an obvious field for research into how to do research.

The way of co-operation would be easier were the sciences to speak a common language, or rather an intertranslatable language. This implies, in the first place, a much greater use of quantities in zoology than hitherto; zoology, again as a result of its recent history, is quite unnecessarily under-mathematised. It is one of the great services of this volume that it contains some valuable essays which follow the lead of D'Arcy Thompson in mathematical biology; that by Medawar is an

important example. But, in the second place, zoology keeps a terminologically disorderly house, in which words are put to quite improper uses. No wonder that Prenant quotes a distinguished chemist: "Biologists do not apply scientific method in that they do not define their terms." That must be the feeling of many physical scientists about such terms as "purpose," "field," "growth" and "homology" (the latter, incidentally, much clarified by Woodger in the volume under review), words about whose meaning zoologists often squabble. This is not the arid question of whether living things can be explained in terms of chemistry or physics. Nobody can draw the limits of chemistry and physics, either now or still less for the future. It is the urgent question of whether the problems of living things are to be clearly formulated, and thus made susceptible to attack with every resource of current science.

The movement towards a closer collaboration of zoology and the physical sciences, which D'Arcy Thompson pioneered, is still of slow growth and imperfect form. The crucial importance of at least some of its aspects, contrasted with their relative neglect by scientists, seems to be one more argument for the planned allocation of scientific resources. A deliberate strategy of scientific advance often appears to its opponents to be an attempt to overwhelm scientists with a mass of immediately practical problems; but it is surely, in guiding fundamental research in this way, that it is likely to have its greatest triumphs.

M. ABERCROMBIE.

(*In the next issue we propose to open a discussion on A. F. Parker-Rhodes's article in the Spring number on* The Origin of Life.)

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